



U.S. Department
of Transportation
**Federal Aviation
Administration**

Program Management Organization
800 Independence Avenue, SW
Washington, D.C. 20591

Mr. John Greenewald
The Black Vault, Inc.
27305 W. Live Oak Road
Suite 1203
Castaic, CA 91384

Dear Mr. Greenewald:

This letter is in response to your Freedom of Information Act (FOIA) request, 2024-04951, dated May 26, 2024. Your request sought records of all emails sent to/from, bcc'd or cc'd, Mr. Mike Freie, FAA Air Traffic Surveillance Services Office, which contain the following keywords: "Unidentified Aerial" and/or "Unidentified Flying" and/or "UAP" and/or "UFO" and/or "Unidentified Spacecraft" and/or "Unidentified aircraft" and/or AARO.

A search was performed in the Air Traffic Organization's Program Management Organization and enclosed is 129 pages of records responsive to your request. However, we are withholding portions of the records under Exemptions 3, 5 and 6 of the FOIA.

FOIA Exemption 3 permits withholding of records specifically exempted from disclosure by another Federal statute. In this instance, 10 USC § 130e states, in part, that the Department of Defense (DOD) may exempt critical infrastructure security information where such disclosure would reveal vulnerabilities that, if exploited, would likely result in the significant disruption, destruction, or damage of or to DOD operations, property or facilities. In a letter dated June 2, 2017, the DOD informed the FAA that DOD flight data constitutes DOD Critical Infrastructure Information (DCRIT) and is therefore exempt from disclosure in accordance with this statute.

FOIA Exemption 5 allows agencies to withhold recommendations, opinions, and analysis under the deliberative process privilege. FOIA Exemption 5 may be used to protect deliberative, pre-decisional materials, such as advice, opinions, and recommendations rendered by agency staff in the course of reaching a final determination or position on any particular matter under agency consideration. To allow disclosure of this type of information would discourage the open and frank discussions and exchange of views between agency employees that are helpful in making decisions regarding security of the National Airspace System (NAS) and also create confusion in those cases where recommendations and opinions are not adopted.

In this case, the information withheld under FOIA Exemption 5 consists of comments and opinions in the program review of the draft report by the Air Traffic Organizations

System Operations Security office. We are withholding this record in full (26 pages), our basis for withholding the draft document is that to the extent this document differs from the final version, there is a substantial risk of confusing the public and intruding on the deliberative process privilege by revealing the FAA's chain of reasoning. See Dolin, Thomas & Solomon LLP v. U.S. Dep't of Labor, 719 F. Supp. 2d 245, 250 (W.D.N.Y. 2010). Since this draft version contains comments and recommendations made by FAA personnel tasked with conducting a review and providing comments withholding under FOIA exemption 5 is appropriate.

Exemption 6 of the FOIA protects information that pertains to an individual "the disclosure of which would constitute a clearly unwarranted invasion of personal privacy." 5 U.S.C. 552(b)(6). We have redacted cell phone numbers and the names of employees who have a security clearance. When applying Exemption 6, the FAA weighs the privacy interest of an individual against any public interest in the records and it is clearly established that there is typically no public interest in cell phone numbers or the names of employees who have a security clearance. As such, withholding is clearly appropriate under FOIA Exemption 6.

If you owe fees for the processing of this request, an invoice containing the amount due and payment instructions will be enclosed.

The undersigned is responsible for this partial denial. You may request reconsideration of this determination by writing the Assistant Administrator for Finance and Management (AFN-400), Federal Aviation Administration, 800 Independence Avenue, SW, Washington DC, 20591 or through electronic mail at: FOIA-Appeals@faa.gov. Your request for reconsideration must be made in writing within 90 days from the date of this letter and must include all information and arguments relied upon. Your letter must state that it is an appeal from the above-described denial of a request made under the FOIA. The envelope containing the appeal should be marked "FOIA Appeal."

You also have the right to seek dispute resolution services from the FAA FOIA Public Liaison via phone (202-267-7799) or email (9-afn-foia-public-liaison@faa.gov) or the Office of Government Information Services (www.archives.gov/ogis) via phone (202-741-5770 / toll-free--1-877-684-6448; fax--202-741-5769); or email (ogis@nara.gov).

Sincerely,

For

Daniel S. Hicok
Vice President
Program Management Organization
Air Traffic Organization

Enclosure

This document is made available through the declassification efforts
and research of John Greenewald, Jr., creator of:

The Black Vault



The Black Vault is the largest online Freedom of Information Act (FOIA)
document clearinghouse in the world. The research efforts here are
responsible for the declassification of hundreds of thousands of pages
released by the U.S. Government & Military.

Discover the Truth at: <http://www.theblackvault.com>

From: Freie, Michael (FAA)
To: Gusk, Amy (FAA)
Subject: Re: Balloon
Date: Tuesday, February 14, 2023 5:21:16 AM
Attachments: image001.png

One additional thought. If we knew where this / they was / were going (motive) it might help us frame our response. Protecting the spectrum for homeland defense is why we wanted to shut down NTIA's auction at any price mentality.

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Tuesday, February 14, 2023 5:08:30 AM
To: Gusk, Amy (FAA) <Amy.Gusk@faa.gov>
Subject: Re: Balloon

Agree. Tech Ops can speak to the sustainability risk. I suggest DOD needs to be the primary spokesperson for National defense because that mission is theirs and I didn't think we wanted to lean into FAA liability toward cost/appropriations. Programs like SENSr (spectrum auction) didn't work in part because of comparable capability limitations and NTIA desire for auction at any price. If however we wanted to add to the list of FAA budget/funding needed, we could take this opportunity. I didn't like the potential that the staffers could use this to keep SENSr "alive".

From: Gusk, Amy (FAA) <Amy.Gusk@faa.gov>
Sent: Monday, February 13, 2023 9:52:23 PM
To: Freie, Michael (FAA) <michael.freie@faa.gov>
Subject: RE: Balloon

Thanks!

Just to you -- wouldn't we play a role in answering this question? Or is this Tech Ops too?

degree to which programs like SENSr are needed to recapitalize primary surveillance radar necessary to support national defense programs.

Amy Gusk
Acting Director, Surveillance Services
Program Management Organization
Federal Aviation Administration (FAA)
10B, Office 3W41BN
Work: 202-267-7752
Cell: (b)(6)

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Monday, February 13, 2023 6:12 PM
To: Hicok, Dan (FAA) <dan.hicok@faa.gov>; Gusk, Amy (FAA) <Amy.Gusk@faa.gov>; Caster, Adrian (FAA) <adrian.caster@faa.gov>
Subject: RE: Balloon

In my opinion, if Ken is going, that is sufficient. I believe DOD owns the air defense mission and DOD would need to speak to any shortfall. SENSr no longer exists.

Interesting article below. I suspect additional awareness of these objects is due to adjusted tracking filters on the ARSR/CARSRs and FPSS-117s. Most tracking filters eliminate plots for targets below 40 or 60 knots airspeed....no fixed wing aircraft fly (for long) below 60 knots. So to get rid of the crap, they filter out slow movers. Obviously they adjusted those minimum speed thresholds.

Link to article and copied below:

https://aviationweek.com/defense-space/budget-policy-operations/f-16-slows-another-unidentified-object-4th-8-days?eId=16e80df51aee4572a576e68a276598548sp_eh=1a3499949f09335f9aa70ff29581d2a3978b1de60b67a3a780c4282dc3d9378&utm_campaign=36688&utm_emailname=AW_News_Aerospace_20230213&utm_medium=email&utm_rid=CPEN100000907015

(b) (3) 10 USC § 130e

On Feb. 12 (b) (3) 10 USC § 130e

Melissa Dalton, assistant secretary of defense for homeland defense, said shortly after the latest incident that since the Chinese balloon was spotted in late January, the Pentagon has enhanced its radar, which could explain the surging pace of incidents. Also, Dalton says there are a large range of entities that operate similar balloons, making them more prevalent.

The military has not definitively assessed what these objects are, so they have been shot down out of an "abundance of caution to protect our security and our interests."

"So we will remain vigilant," Dalton says. "We have made these enhancements to our radars and the operations this past week have been successful in bringing down these potential threats, and we are hard at work now recovering the debris to better understand certainly the capabilities of the surveillance balloon from [China] but also the nature of these unidentified objects to better understand, were they surveillance objects, what was their purpose, what are their capabilities."

(b) (3) 10 USC § 130e

Dalton says the Pentagon hopes to learn more about the objects as they are recovered and to share more in the coming days, including potentially imagery of the objects themselves.

VanHerck says to his knowledge the incidents over the past eight days have marked the first time (b) (3) 10 USC § 130e

Mike Freie
Technical Advisor, Surveillance Services, AIM-4
Federal Aviation Administration
Cell: (b)(6)

From: Hicok, Dan (FAA) <dan.hicok@faa.gov>
Sent: Monday, February 13, 2023 5:43 PM
To: Gusk, Amy (FAA) <Amy.Gusk@faa.gov>; Freie, Michael (FAA) <michael.freie@faa.gov>; Caster, Adrian (FAA) <adrian.caster@faa.gov>
Subject: Fwd: Balloon

If you guessed the questions were related to the UFO activity recently you were right. See below for a meeting planned for this Friday where SENSr is lumped in. I am not sure if I will attend. I will if I can. If any of you want to be added, please let me know.

Thanks,

Dan

Dan Hicok
Director of Strategy, AJV-S
Mission Support Services | Air Traffic Organization (ATO)
Federal Aviation Administration

Mobile: (b)(6)
Email: dan.hicok@faa.gov
Web: www.faa.gov/missionsupport

Sent from my iPad

From: Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>
Sent: Monday, February 13, 2023 5:33:48 PM
To: Rosenbloom, Scott (FAA) <scott.rosenbloom@faa.gov>; Onizuk, Deirdre (FAA) <deirdre.onizuk@faa.gov>; Harris, Ken J (FAA) <Ken.J.Harris@faa.gov>; Hicok, Dan (FAA) <dan.hicok@faa.gov>
Subject: Fwd: Balloon

Afternoon
Please see below for additional folks for the Congressional meeting on Friday

From: Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>
Sent: Monday, February 13, 2023 2:35 PM
To: Planty, Jeffrey (FAA) <jeffrey.planty@faa.gov>; Harris, Ken J (FAA) <Ken.J.Harris@faa.gov>; Hicok, Dan (FAA) <dan.hicok@faa.gov>
Subject: Re: Balloon

Thanks Jeff. I think they will work just fine. The House T&I staffer discussion is this Friday at 10am. It will be classified.

From: Planty, Jeffrey (FAA) <jeffrey.planty@faa.gov>
Sent: Monday, February 13, 2023 2:33 PM
To: Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>
Subject: Re: Balloon

Hi Gary,

Yes, I'd say we need to pull in Ken with his NDP and SENSr involvement, as well as Dan Hicok with his like engagement with DoD on SENSr.

Those would be a good start and we can expand from there, unless you have someone specific in mind.

Thanks for engaging us.

Jeff

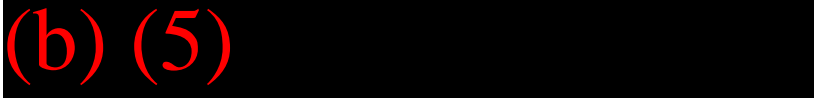
From: Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>
Sent: Monday, February 13, 2023 9:02:48 AM
To: Planty, Jeffrey (FAA) <jeffrey.planty@faa.gov>
Subject: Fwd: Balloon

Morning Jeff

Hope your well and had a restful weekend. Was wondering if some of the below topics would fall to AJW? I can handle the coordination stuff for the Subcommittee staffer meeting on Fri but I think there are some equities for you Sir?

From: Onizuk, Deirdre (FAA) <deirdre.onizuk@faa.gov>
Sent: Monday, February 13, 2023 8:56 AM
To: Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>; Morris, Jack E (FAA) <Jack.E.Morris@faa.gov>
Subject: FW: Balloon

Good morning Gary-
Please let me know if you would like additional folks to support as well as level of the classification:



Thank you,
Deirdre Onizuk
Senior Advisor, System Operations Services
(b) (6) (c)



From: Perrino, Madeline A (FAA) <Madeline.A.Perrino@faa.gov>
Sent: Monday, February 13, 2023 8:46 AM
To: Onizuk, Deirdre (FAA) <deirdre.onizuk@faa.gov>; Howard, Katherine (FAA) <katherine.howard@faa.gov>; Rosenbloom, Scott (FAA) <scott.rosenbloom@faa.gov>
Cc: Ryan, Lisa A (FAA) <Lisa.A.Ryan@faa.gov>; Schwab, Gregory (FAA) <gregory.schwab@faa.gov>; Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>
Subject: RE: Balloon

Good Morning,

We may not be able to get a list of questions but we can definitely reach out to see what specific topics they want to cover relating to the balloon.

The committee has also asked what level of classification you believe would be most appropriate for the briefing. Please let me know.

Thanks!

Madeline Perrino
Congressional Liaison Specialist
Federal Aviation Administration
W: 202.267.0167
C: (b) (6)

From: Onizuk, Deirdre (FAA) <deirdre.onizuk@faa.gov>
Sent: Thursday, February 9, 2023 10:20 AM
To: Howard, Katherine (FAA) <katherine.howard@faa.gov>; Rosenbloom, Scott (FAA) <scott.rosenbloom@faa.gov>
Cc: Ryan, Lisa A (FAA) <Lisa.A.Ryan@faa.gov>; Schwab, Gregory (FAA) <gregory.schwab@faa.gov>; Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>; Perrino, Madeline A (FAA) <Madeline.A.Perrino@faa.gov>
Subject: RE: Balloon

Great. It works best for 10 -11 am. It would be great to get a list of questions in advance to make sure we have the right folks in attendance otherwise Gary Miller will represent.

From: Howard, Katherine (FAA) <katherine.howard@faa.gov>
Sent: Thursday, February 9, 2023 10:02 AM
To: Onizuk, Deirdre (FAA) <deirdre.onizuk@faa.gov>; Rosenbloom, Scott (FAA) <scott.rosenbloom@faa.gov>
Cc: Ryan, Lisa A (FAA) <Lisa.A.Ryan@faa.gov>; Schwab, Gregory (FAA) <gregory.schwab@faa.gov>; Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>; Perrino, Madeline A (FAA) <Madeline.A.Perrino@faa.gov>
Subject: RE: Balloon

It's staff only

From: Onizuk, Deirdre (FAA) <deirdre.onizuk@faa.gov>
Sent: Thursday, February 9, 2023 9:59:46 AM
To: Rosenbloom, Scott (FAA) <scott.rosenbloom@faa.gov>
Cc: Ryan, Lisa A (FAA) <Lisa.A.Ryan@faa.gov>; Schwab, Gregory (FAA) <gregory.schwab@faa.gov>; Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>; Perrino, Madeline A (FAA) <Madeline.A.Perrino@faa.gov>; Howard, Katherine (FAA) <katherine.howard@faa.gov>
Subject: RE: Balloon

Thanks Scott. Let me loop back but just also confirming this is for staff only correct?

Thank you,
Deirdre Onizuk
Senior Advisor, System Operations Services
(b) (6) (c)



From: Rosenbloom, Scott (FAA) <scott.rosenbloom@faa.gov>
Sent: Thursday, February 9, 2023 9:57 AM
To: Onizuk, Deirdre (FAA) <deirdre.onizuk@faa.gov>
Cc: Ryan, Lisa A (FAA) <Lisa.A.Ryan@faa.gov>; Schwab, Gregory (FAA) <gregory.schwab@faa.gov>; Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>; Perrino, Madeline A (FAA) <Madeline.A.Perrino@faa.gov>; Howard, Katherine (FAA) <katherine.howard@faa.gov>
Subject: RE: Balloon

Good morning Deirdre,
They came back this morning that their SCIF is available Friday (2/17) 10-11am or 11-12pm. Does your team have a preference?
Scott

From: Onizuk, Deirdre (FAA) <deirdre.onizuk@faa.gov>

Sent: Wednesday, February 8, 2023 7:57 PM

To: Howard, Katherine (FAA) <katherine.howard@faa.gov>

Cc: Ryan, Lisa A (FAA) <Lisa.A.Ryan@faa.gov>; Schwab, Gregory (FAA) <gregory.schwab@faa.gov>; Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>; Perrino, Madeline A (FAA) <Madeline.A.Perrino@faa.gov>; Rosenbloom, Scott (FAA) <scott.rosenbloom@faa.gov>

Subject: RE: Balloon

Good evening Kate, Madeline and Scott-
Looping back to see if you have any times for next week?

Thank you,
Deirdre Onizuk
Senior Advisor, System Operations Services
(b)(6) (c)



From: Howard, Katherine (FAA) <katherine.howard@faa.gov>

Sent: Monday, February 6, 2023 7:51 PM

To: Onizuk, Deirdre (FAA) <deirdre.onizuk@faa.gov>

Cc: Ryan, Lisa A (FAA) <Lisa.A.Ryan@faa.gov>; Schwab, Gregory (FAA) <gregory.schwab@faa.gov>; Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>; Hood, Alyce (FAA) <alyce.hood@faa.gov>; Murphy, Dan (FAA) <dan.murphy@faa.gov>; Perrino, Madeline A (FAA) <Madeline.A.Perrino@faa.gov>; Rosenbloom, Scott (FAA) <scott.rosenbloom@faa.gov>

Subject: Re: Balloon

Thank you so much! Adding Madeline and Scott as well for us. We will circle back with times from staff. Thanks again!

From: Onizuk, Deirdre (FAA) <deirdre.onizuk@faa.gov>

Sent: Monday, February 6, 2023 7:40 PM

To: Howard, Katherine (FAA) <katherine.howard@faa.gov>

Cc: Ryan, Lisa A (FAA) <Lisa.A.Ryan@faa.gov>; Schwab, Gregory (FAA) <gregory.schwab@faa.gov>; Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>; Hood, Alyce (FAA) <alyce.hood@faa.gov>; Murphy, Dan (FAA) <dan.murphy@faa.gov>

Subject: Fwd: Balloon

Hi Kate- Gary Miller will be able to assist for ATO. Can you provide times for next Thursday or Friday?

Thank you,

Deirdre

From: Howard, Katherine (FAA) <katherine.howard@faa.gov>

Sent: Monday, February 6, 2023 9:58 AM

To: Ryan, Lisa A (FAA) <Lisa.A.Ryan@faa.gov>; Schwab, Gregory (FAA) <gregory.schwab@faa.gov>; Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>

Cc: Sypniewski, Jessica (FAA) <jessica.sypniewski@faa.gov>; McDaniel, Tara B (FAA) <Tara.B.McDaniel@faa.gov>; Heintz, Hillary (FAA) <Hillary.Heintz@faa.gov>; Dudley, Lauren R (FAA) <Lauren.R.Dudley@faa.gov>; Lehner, Matthew D (FAA) <Matthew.D.Lehner@faa.gov>; Shiffer, Jeannie (FAA) <Jeannie.Shiffer@faa.gov>

Subject: FW: Balloon

Hi – T&I is seeking a classified briefing for committee staff both Dem and R's. Would it be possible to do that perhaps Thurs or Fri?

From: (b)(6)

Sent: Monday, February 6, 2023 9:35 AM

To: Howard, Katherine (FAA) <katherine.howard@faa.gov>

Subject: Balloon

I've really been trying to hold this off, but we're going to have to request a classified briefing on the balloon and FAA's role. Let's try to set it up for next week if that works for you all.

-Hunter

(b)(6)

Subcommittee on Aviation
Committee on Transportation and Infrastructure
United States House of Representatives
(b)(6)

This email and any related communications, documents, notes, draft legislation, recommendations, reports, or other materials generated or received by the Members or staff of the U.S. House of Representatives Committee on Transportation and Infrastructure are congressional records and remain subject to the Committee's control, and are entrusted to your agency only for use in handling this matter. Any such documents created or compiled by an agency in connection with any response to this Committee document or any related Committee communications, whether made by phone, email, or document, including any replies to the Committee, are also records of the Committee and remain subject to the Committee's control. Accordingly, the aforementioned documents are not "agency records" for purposes of the Freedom of Information Act or any other law, and should be segregated from agency records.

From: [Gusky, Amy \(FAA\)](#)
To: [Freie, Michael \(FAA\)](#)
Subject: RE: In search of May 31 speaker
Date: Monday, May 8, 2023 7:42:50 PM
Attachments: [image001.png](#)

OK go for it, I don't have any objections unless you foresee any concerns. Thanks Mike!

Amy Gusky

Acting Director, Surveillance Services

Program Management Organization

Federal Aviation Administration (FAA)

10B, Office 3W41BN

Work: 202-267-7752

Cell: (b)(6)

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Monday, May 8, 2023 5:53 PM
To: Gusky, Amy (FAA) <Amy.Gusky@faa.gov>
Subject: RE: In search of May 31 speaker

The basics of how we surveil the US airspace, yes. Number of balloons, UAS, etc, I would need to get some data from AJR for the UAS, but that should be some easy back pocket data points.

Mike Freie

Technical Advisor, Surveillance Services, AJM-4

Federal Aviation Administration

Cell – (b)(6)

From: Gusky, Amy (FAA) <Amy.Gusky@faa.gov>
Sent: Monday, May 8, 2023 5:46 PM
To: Freie, Michael (FAA) <michael.freie@faa.gov>
Subject: RE: In search of May 31 speaker

Do you feel comfortable covering that topic?

Amy Gusky

Acting Director, Surveillance Services

Program Management Organization

Federal Aviation Administration (FAA)

10B, Office 3W41BN

Work: 202-267-7752

Cell: (b)(6)

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Monday, May 8, 2023 5:31 PM

To: Gusky, Amy (FAA) <Amy.Gusky@faa.gov>

Subject: FW: In search of May 31 speaker

Thoughts?

Mike Freie

Technical Advisor, Surveillance Services, AJM-4

Federal Aviation Administration

Cell – (b)(6)

From: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>

Sent: Monday, May 8, 2023 11:36 AM

To: Freie, Michael (FAA) <michael.freie@faa.gov>

Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>

Subject: FW: In search of May 31 speaker

Hello Mike,

My colleagues have recommended that you would be an excellent FAA speaker to discuss air domain surveillance, with a particular focus on establishing a baseline of exactly how many objects are in US airspace at a given time, e.g. planes, UAS, balloons, etc. We are looking for a presenter for the NASA UAP Independent Study Team public meeting on May 31 between 11:30a-noon. Would you be available to support this request?

As background, Warren Randolph and I are FAA employees who are also members of NASA's Independent Study Team (see <https://science.nasa.gov/uap>) The Study Team operates under FACA rules, and we are preparing for public deliberations in advance of our final report this summer. NASA will convene the May 31 meeting at NASA HQ, which is located a few blocks from FAA HQ. As an expert on surveillance, we would need you to describe the basics of how civil airspace is surveilled by the FAA. You may receive clarifying questions from scientists on our panel, but, you won't be responding to public questions. In general, we are not planning to use slides for the short presentations (not more than 10-20 minutes to cover each topic on our agenda).

I'd be happy to set up a call to answer questions that you may have and I'm hoping that you will be able to support us. Please let me know.

Thank you,

Karlin

Dr. Karlin Toner | Senior Advisor, Data Policy Integration | Federal Aviation Administration |

(b)(6) (mobile)

From: Gustin, Joshua (FAA) <joshua.gustin@faa.gov>

Sent: Monday, May 8, 2023 10:59 AM
To: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Subject: RE: In search of May 31 speaker

Mike is great and knows that arena well! He'd be great.

Joshua Edward Gustin
Director, Telecommunications Integrated Services Office (Acting, AJM-5)
FAA, ATO Program Management Organization
202-267-2953

From: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Sent: Monday, May 8, 2023 9:57 AM
To: Gustin, Joshua (FAA) <joshua.gustin@faa.gov>
Subject: FW: In search of May 31 speaker

Hi Josh,

I'm looking for an FAA speaker who can talk about air domain surveillance, with a particular focus on establishing a baseline of exactly how many objects are in US airspace at a given time, e.g., planes, UAS, balloons, etc. on May 31 at the NASA UAP Independent Study Team public meeting. This will be a short, basic surveillance 101 talk.

Natesh and Steve have suggested Mike Frieie from AJM-4. I wanted to quickly confirm from your data view within ATO that this would be a logical choice before I reach out to Mike (who I don't know).

Thanks,

Karlin

Dr. Karlin Toner | Senior Advisor, Data Policy Integration | Federal Aviation Administration |
(b)(6) (mobile)

From: Bradford, Steve (FAA) <Steve.Bradford@faa.gov>
Sent: Monday, May 8, 2023 8:00 AM
To: Manikoth, Natesh (FAA) <natesh.manikoth@faa.gov>; Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Subject: RE: In search of May 31 speaker

I think Mike Freie, he is the acting deputy and very knowledgeable. Ran the SENSR program after Rebecca.

From: Manikoth, Natesh (FAA) <natesh.manikoth@faa.gov>
Sent: Monday, May 8, 2023 7:52 AM
To: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>; Bradford, Steve (FAA) <Steve.Bradford@faa.gov>
Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Subject: RE: In search of May 31 speaker

AJM-4 ?

From: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Sent: Monday, May 8, 2023 7:33 AM
To: Manikoth, Natesh (FAA) <natesh.manikoth@faa.gov>; Bradford, Steve (FAA) <Steve.Bradford@faa.gov>
Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Subject: FW: In search of May 31 speaker

Natesh, Steve,

We'd like to have someone who is not a UAP panel member speak at the public meeting on May 31 on the topics the DFO has outlined below. If not one of you, could you please help me identify who would be best from FAA and I'll work to establish availability?

The public meeting will be held at NASA HQ beginning about 10a on May 31. The speaker would not have to stay for the full session. Public input will be taken virtually and the location of the meeting will not be disclosed in the federal register announcement. No more than 10-20 minutes will be allotted since the agenda will be tightly timed.

Warren and I appreciate your help on this.

Best,

Karlin

From: Evans, Daniel A. (HQ-DA000) <daniel.a.evans@nasa.gov>
Sent: Thursday, May 4, 2023 7:49 PM
To: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>; Randolph, Warren (FAA) <warren.randolph@faa.gov>
Subject: In search of May 31 speaker

Hi Karlin and Warren,

I hope you're both well. I'm writing to ask for your help in identifying a speaker for the May 31 Independent Study Public Meeting. What we're after is someone who can speak about air domain surveillance, with a particular focus on establishing a baseline of exactly how many objects are in US airspace at a given time, e.g., planes, UAS, balloons, etc. I asked the ODNI National Intelligence

Manager for Aviation (NIM-A) if they could do it, but he and his staff will be out of the office attending a funeral of a colleague on May 31. Is there anyone from FAA who might be able to help us?

Best wishes,
Dan



Daniel A. Evans, Ph.D.
Asst. Dep. Associate Administrator for Research
NASA Headquarters
Science Mission Directorate
Mary W. Jackson NASA Headquarters Building
300 Hidden Figures Way SW, Washington, D.C. 20546
(O) 202.358.3882 | (C) (b)(6)
Daniel.A.Evans@nasa.gov

From: [Toner, Karlin \(FAA\)](#)
To: [Freie, Michael \(FAA\)](#)
Cc: [Randolph, Warren \(FAA\)](#); [Gusky, Amy \(FAA\)](#); [Boyd, Brooke \(FAA\)](#); [Jones, LaToya D-CTR \(FAA\)](#)
Subject: RE: In search of May 31 speaker
Date: Tuesday, May 9, 2023 2:56:16 PM
Attachments: [image001.png](#)

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Would you like me to set up a call to address any other questions that you might have? If needed, I will ask LaToya Jones to help coordinate my calendar.

Best,

Karlin

Dr. Karlin Toner | Senior Advisor, Data Policy Integration | Federal Aviation Administration |
(b)(6) (mobile)

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Karlin,

I should be able to support this event.

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Cell – **(b)(6)**

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Subject: RE: In search of May 31 speaker

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Director, Telecommunications Integrated Services Office (Acting, AJM-5)
FAA, ATO Program Management Organization
202-267-2953

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AJM-4 ?

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From: [Walker, Cassandra CTR \(FAA\)](#)
To: [Freie, Michael \(FAA\)](#)
Subject: RE: In search of May 31 speaker
Date: Tuesday, May 9, 2023 3:12:31 PM
Attachments: [image001.png](#)

Hi Mike,

I will pull some slides and we can discuss.

Thanks,
Cassandra

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Tuesday, May 9, 2023 3:05 PM
To: Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Subject: FW: In search of May 31 speaker

I could use your help in flagging a few slides to provide a surveillance 101. I am thinking basic non-cooperative, cooperative, ADS-B and a second rule airspace "cake" slide

If you would like to discuss to get a better understanding what I am thinking, happy to support.

Mike

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
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From: [Freie, Michael \(FAA\)](#)
To: [Jones, LaToya D-CTR \(FAA\)](#); [Cassandra Walker - CTGi \(cassandra.ctr.walker@faa.gov\)](#)
Subject: RE: ***Thank you & Prep meeting*** In search of May 31 speaker
Date: Thursday, May 11, 2023 11:32:00 AM
Attachments: [image001.png](#)

LaToya,

A 15-minute conversation with Karlin would be helpful for my preparation. Cassandra can help coordinate my availability.

Thanks

Mike

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Jones, LaToya D-CTR (FAA) <LaToya.D-CTR.Jones@faa.gov>
Sent: Thursday, May 11, 2023 11:19 AM
To: Freie, Michael (FAA) <michael.freie@faa.gov>
Subject: RE: ***Thank you & Prep meeting*** In search of May 31 speaker

Good Morning Mike,

I'm the EA for Karlin, I see this email thread to schedule this meeting. Will a call be set up for this meeting? So that we can work together with calendaring?

LaToya

LaToya Jones
Executive Assistant to Angela McCullough
Executive Director of AVIATION POLICY & PLANS, APO-1
Federal Aviation Administration
202-267-3274 (office number)
LaToya.D-CTR.Jones@faa.gov

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Wednesday, May 10, 2023 2:13 PM
To: Randolph, Warren (FAA) <warren.randolph@faa.gov>
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CTR.Hooker@faa.gov>; Toner, Karlin (FAA) <Karlin.Toner@faa.gov>

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That sounds good. If there are specific data points the committee desires, that would be helpful. Also any sensitive or FAA specific elements you would like to see would be of value.

Mike Freie

Technical Advisor, Surveillance Services, AJM-4

Federal Aviation Administration

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Hi Mike –

I'm a fellow UAP committee member with Karlin. Many thanks for agreeing to support the May 31 event. I've asked Ebony (copied) to find time for us to meet later next week. We'll discuss your ideas for the surveillance presentation as well as download you with details regarding the committee's membership and work plan.

Thanks again.

Warren Randolph

Deputy Executive Director, AVP-2

Office of Accident Investigation and Prevention

FAA Aviation Safety Organization (AVS)

+1.202.267.9612

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Subject: In search of May 31 speaker

Hi Karlin and Warren,

I hope you're both well. I'm writing to ask for your help in identifying a speaker for the May 31 Independent Study Public Meeting. What we're after is someone who can speak about air domain surveillance, with a particular focus on establishing a baseline of exactly how many objects are in US airspace at a given time, e.g., planes, UAS, balloons, etc. I asked the ODNI National Intelligence Manager for Aviation (NIM-A) if they could do it, but he and his staff will be out of the office attending a funeral of a colleague on May 31. Is there anyone from FAA who might be able to help us?

Best wishes,
Dan



Daniel A. Evans, Ph.D.
Asst. Dep. Associate Administrator for Research
NASA Headquarters
Science Mission Directorate
Mary W. Jackson NASA Headquarters Building
300 Hidden Figures Way SW, Washington, D.C. 20546
(O) 202.358.3882 | (C) (b)(6)
Daniel.A.Evans@nasa.gov

From: [Freie, Michael \(FAA\)](#)
To: [Gusky, Amy \(FAA\)](#)
Subject: NASA Meeting
Date: Tuesday, May 16, 2023 4:49:00 PM

Amy,

Below is a link to the meeting I was asked to support. I perceive my briefing will provide background information through a description of what the FAA surveils and how. This is somewhat interesting as UAP is the new UFO term.

<https://www.nasa.gov/press-release/nasa-provides-coverage-of-unidentified-anomalous-phenomena-meeting>

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: [Evans, Daniel A. \(HQ-DA000\)](#)
To: [Randolph, Warren \(FAA\)](#); [Jones, LaToya D-CTR \(FAA\)](#); [Freie, Michael \(FAA\)](#); [Toner, Karlin \(FAA\)](#)
Subject: Re: [EXTERNAL] RE: ***NEW Prep meeting date/time options*** UAP ST MAY 31 FAA Prep Meeting
Date: Wednesday, May 17, 2023 4:18:56 PM

Hi everyone,

I have an eye doctor appointment on Monday at 2pm, but please go ahead without me!

Best wishes,

Dan

From: "Randolph, Warren (FAA)" <warren.randolph@faa.gov>
Date: Wednesday, May 17, 2023 at 4:02 PM
To: "Jones, LaToya D-CTR (FAA)" <LaToya.D-CTR.Jones@faa.gov>, "Freie, Michael (FAA)" <michael.freie@faa.gov>, "Toner, Karlin (FAA)" <Karlin.Toner@faa.gov>, "Evans, Daniel A. (HQ-DA000)" <daniel.a.evans@nasa.gov>
Subject: [EXTERNAL] RE: ***NEW Prep meeting date/time options*** UAP ST MAY 31 FAA Prep Meeting

All –

Thank you for the quick responses. I went ahead and moved the meeting to Monday, May 22, @ 2 PM.

Warren

From: Jones, LaToya D-CTR (FAA) <LaToya.D-CTR.Jones@faa.gov>
Sent: Wednesday, May 17, 2023 3:56 PM
To: Randolph, Warren (FAA) <warren.randolph@faa.gov>; Freie, Michael (FAA) <michael.freie@faa.gov>; Toner, Karlin (FAA) <Karlin.Toner@faa.gov>; Evans, Daniel A. (HQ-DA000) <daniel.a.evans@nasa.gov>
Subject: RE: ***NEW Prep meeting date/time options*** UAP ST MAY 31 FAA Prep Meeting

Hello,

Karlin is available on both dates and times.

LaToya

LaToya Jones

*Executive Assistant to Angela McCullough
Executive Director of AVIATION POLICY & PLANS, APO-1
Federal Aviation Administration
202-267-3274 (office number)
LaToya.D-CTR.Jones@faa.gov*

From: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Sent: Wednesday, May 17, 2023 3:55 PM
To: Freie, Michael (FAA) <michael.freie@faa.gov>; Toner, Karlin (FAA) <Karlin.Toner@faa.gov>; Evans, Daniel A. (HQ-DA000) <daniel.a.evans@nasa.gov>
Cc: Jones, LaToya D-CTR (FAA) <LaToya.D-CTR.Jones@faa.gov>
Subject: RE: ***NEW Prep meeting date/time options*** UAP ST MAY 31 FAA Prep Meeting

Thanks, Mike.

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Wednesday, May 17, 2023 3:54 PM
To: Randolph, Warren (FAA) <warren.randolph@faa.gov>; Toner, Karlin (FAA) <Karlin.Toner@faa.gov>; Evans, Daniel A. (HQ-DA000) <daniel.a.evans@nasa.gov>
Cc: Jones, LaToya D-CTR (FAA) <LaToya.D-CTR.Jones@faa.gov>
Subject: RE: ***NEW Prep meeting date/time options*** UAP ST MAY 31 FAA Prep Meeting

I can support:

Friday 2:-00-4:00
Monday 2:00-3:00

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Sent: Wednesday, May 17, 2023 3:34 PM
To: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>; Freie, Michael (FAA) <michael.freie@faa.gov>; Evans, Daniel A. (HQ-DA000) <daniel.a.evans@nasa.gov>
Cc: Jones, LaToya D-CTR (FAA) <LaToya.D-CTR.Jones@faa.gov>
Subject: ***NEW Prep meeting date/time options*** UAP ST MAY 31 FAA Prep Meeting

We get holidays off?

In all seriousness, please let me know which options below do not work for your calendars. I'll adjust the May 29 meeting invite once I hear back from each of you.

- Thursday, May 18: 2:30 – 5PM
- Friday, May 19, 2:30 – 5PM
- Monday, May 22: 2 – 4PM

Warren

From: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Sent: Wednesday, May 17, 2023 3:07 PM
To: Randolph, Warren (FAA) <warren.randolph@faa.gov>; Freie, Michael (FAA) <michael.freie@faa.gov>; Evans, Daniel A. (HQ-DA000) <daniel.a.evans@nasa.gov>
Cc: Jones, LaToya D-CTR (FAA) <LaToya.D-CTR.Jones@faa.gov>
Subject: RE: ***Prep meeting date/time options*** UAP ST MAY 31 FAA Prep Meeting

Hi Warren,

I think I was omitted from the 5/29 invitation – it's not on my calendar. That said, 5/29 is the Memorial Day Holiday. We might want to consider the options you pose and I'll make myself available for those times.

Karlin

From: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Sent: Wednesday, May 17, 2023 2:57 PM
To: Freie, Michael (FAA) <michael.freie@faa.gov>; Evans, Daniel A. (HQ-DA000) <daniel.a.evans@nasa.gov>; Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Cc: Jones, LaToya D-CTR (FAA) <LaToya.D-CTR.Jones@faa.gov>
Subject: ***Prep meeting date/time options*** UAP ST MAY 31 FAA Prep Meeting

Hi all – I realize, May 29 does not give us a lot of time to prep for the May 31 meeting. Regrettably, I'm on international travel Tuesday through Friday next week. That said, I can move this prep meeting to any of the following dates/times:

- Thursday, May 18: 2:30 – 5PM
- Friday, May 19, 2:30 – 5PM
- Monday, May 22: 2 – 4PM

If these times don't work, we'll keep the May 29 meeting. Another option is to meet while I'm out of pocket.

Warren

-----Original Appointment-----

From: Hooker, Ebony S-CTR (FAA) <Ebony.S-CTR.Hooker@faa.gov>
Sent: Wednesday, May 17, 2023 2:44 PM
To: Randolph, Warren (FAA); Freie, Michael (FAA); Jones, LaToya D-CTR (FAA); Evans, Daniel A. (HQ-DA000)

From: [Heuser, Joe \(FAA\)](#)
To: [Freie, Michael \(FAA\)](#); [Few, Debra \(FAA\)](#); [Youngblood, Brandon M \(FAA\)](#)
Cc: [Morris, Jack E \(FAA\)](#); [Shea, Leslie L \(FAA\)](#)
Subject: Re: Seeking Information
Date: Friday, May 19, 2023 1:43:58 PM

Thanks for the explanation Mike. Have a great weekend!

Joe Heuser
Manager, Tactical Operations
FAA, ATO, System Operations Security, AJR-24
540-422-4548
(b)(6) (C)

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Friday, May 19, 2023 1:41:45 PM
To: Few, Debra (FAA) <Debra.Few@faa.gov>; Youngblood, Brandon M (FAA) <brandon.m.youngblood@faa.gov>; Heuser, Joe (FAA) <Joe.Heuser@faa.gov>
Cc: Morris, Jack E (FAA) <Jack.E.Morris@faa.gov>; Shea, Leslie L (FAA) <Leslie.L.Shea@faa.gov>
Subject: RE: Seeking Information

Thanks Joe.

As further background, the NASA request is in support of a NASA Study Panel on Unidentified Anomalous Phenomena (UAP), which is renaming of UFO. The data points will be defining what the FAA is aware of with the NAS; i.e. what is not necessarily "unidentified". I am also provide what we surveil and how to frame what the FAA is capable of "identifying".

Understanding no requirement for reporting of balloon, I am seeking the general number/scope of balloons that are likely operating around the NAS on any given day. I understand NWS release 100's of weather balloon daily.

Regarding UAS, a similar question of how big is this breadbox. I separate small Class 1 and 2 (recreational/Part 107) UAS from Class 3-5 UAS operations. I do not know the number of Class 1 and 2 daily operations, nor do I think we need to worry about those with respect to this request (regulated to <400' or by exception). I do think knowing the number of Class 3-5 UAS operations in the NAS daily would be valuable data point. I believe that number is small, but I really do not know., hence my questions.

I hope this helps.

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Few, Debra (FAA) <Debra.Few@faa.gov>

Sent: Friday, May 19, 2023 11:04 AM

To: Youngblood, Brandon M (FAA) <brandon.m.youngblood@faa.gov>; Heuser, Joe (FAA) <Joe.Heuser@faa.gov>; Freie, Michael (FAA) <michael.freie@faa.gov>

Cc: Morris, Jack E (FAA) <Jack.E.Morris@faa.gov>; Shea, Leslie L (FAA) <Leslie.L.Shea@faa.gov>

Subject: RE: Seeking Information

Good morning Brandon,

We can pull data from the balloon sightings reported to the WOC, this may not be a complete list, but this is what would have been reported over the Domestic Events Network. If this what you need please provide the time frame and we will provide the data. Thank you.

V/r,

Debra Few

*Manager, Washington Operations Center Complex (WOCC)
Office of National Security Programs & Incident Response, (AXE-100)
Security and Hazardous Materials Safety (ASH)
Federal Aviation Administration (FAA)*

24-hrs: [202-267-3333](tel:202-267-3333)

Office: [202-267-3528](tel:202-267-3528)

Cellular: (b)(6)

From: Youngblood, Brandon M (FAA) <brandon.m.youngblood@faa.gov>

Sent: Friday, May 19, 2023 10:57 AM

To: Heuser, Joe (FAA) <Joe.Heuser@faa.gov>; Freie, Michael (FAA) <michael.freie@faa.gov>; Few, Debra (FAA) <Debra.Few@faa.gov>

Cc: Morris, Jack E (FAA) <Jack.E.Morris@faa.gov>

Subject: RE: Seeking Information

Good morning, Debra!

Would you be able to help Mike out with his information request below?

Thank you so much!

Best,
Brandon

From: Heuser, Joe (FAA) <Joe.Heuser@faa.gov>

Sent: Friday, May 19, 2023 10:44 AM

To: Freie, Michael (FAA) <michael.freie@faa.gov>

Cc: Youngblood, Brandon M (FAA) <brandon.m.youngblood@faa.gov>; Morris, Jack E (FAA) <Jack.E.Morris@faa.gov>

Subject: Re: Seeking Information

Mike,

Good afternoon. Unfortunately I am on leave the rest of the week. I would recommend going to the WOCC/AXE for this data. Brandon might have a more specific POC.

Something to be considered for you is that there is no requirement to report or track all balloon or UAS operations in the NAS. Also, aircraft operations are only planned IFR and does not address their question regarding aircraft in the air at a given time due to the large number of visual flight rules participants.

Joe Heuser
Manager, Tactical Operations
FAA, ATO, System Operations Security, AJR-24
540-422-4548
(b)(6) (C)

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Friday, May 19, 2023 10:28 AM
To: Heuser, Joe (FAA) <Joe.Heuser@faa.gov>
Subject: RE: Seeking Information

Joe,

Would you have 15 minutes this afternoon to discuss the NASA inquiry? My calendar is open after 2:00 today.

Mike

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Youngblood, Brandon M (FAA) <brandon.m.youngblood@faa.gov>
Sent: Wednesday, May 17, 2023 6:20 AM
To: Freie, Michael (FAA) <michael.freie@faa.gov>
Cc: Heuser, Joe (FAA) <Joe.Heuser@faa.gov>; Morris, Jack E (FAA) <Jack.E.Morris@faa.gov>; Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>
Subject: RE: Seeking Information

Good morning, Mike,

I'm going to get you in touch with Mr. Joe Heuser and Mr. Jack Morris for that information. Joe is the Group Manager who oversees the DEN and a handful of other offices. The DEN is tracking reported balloon "sightings" and may be able to provide what is reported coming in from the field. Jack is Gary's Senior Advisor and may be able to help you get in touch with some other folks.

It would also be a good idea to touch base with Mike Beckles, who is the Acting Director of AJV-P, to

see if the Service Centers are tracking any balloon related data, e.g. 14 CFR § 101 operations.

Hopefully this will help!

Respectfully,
Brandon

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Tuesday, May 16, 2023 2:24 PM
To: Youngblood, Brandon M (FAA) <brandon.m.youngblood@faa.gov>
Subject: Seeking Information

Brandon,

Hope all is well.

Back February when we were working the tasker from the balloon incident, I recall a data point someone had regarding number of balloons in any given day. I am supporting a request from NASA regarding FAA surveillance and how many objects are in US airspace at a given time; e.g., planes, UAS, balloons.

Some of the data points I am seeking would be:

- Daily GA aircraft flights
- Daily UAS flights – BVLOS, Commercial, Recreational
- Daily balloon flights – NWS or other

The “Air Traffic By The Numbers” site is a good source but doesn’t include everything. Exact figures are not necessary, rather needing to provide a description of the scope and surveillance provided by the NAS. Do you know or can you point me in the right direction for who might have these statistics? Thanks in advance.

Mike

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: [Walker, Cassandra CTR \(FAA\)](#)
To: [Freie, Michael \(FAA\)](#)
Subject: RE: Tag up
Date: Friday, May 19, 2023 4:19:09 PM

My comments to your comments

Calendar:

1. There is a NASA hold on your calendar for Monday 5/22 @ 2pm. Is that real? If so, I need to move mtg with Shirley. **Yes, this is the prep for the 31st. Got it. I will move Shirley**
2. 5/25 – there is a NAS IAWG Hotwash that popped up. Do you need to attend that? If so, I need to rescheduled Common Support Brief. **I do not plan to attend. Great – no action.**
3. Are you attending Surveillance Workgroup on 5/31 besides the time you are at NASA? **I was not planning to, but I have not thought about. Is there a concern, or just awareness? For awareness – So I don't schedule anything else that day if you are going.**

Other:

1. How did PfMR go? Any follow-up actions? **Went well. No action.**
2. NASA UAP Independent Study Team public meeting May 31st 11am-12pm. Do you want to meet to discuss your slides? **Yes, let us meet next week. Do we know when they are due? If not, I will ask on Monday. I have not seen anything that states when materials are due.**

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Friday, May 19, 2023 3:19 PM
To: Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Subject: RE: Tag up

[See comments below.](#)

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – **(b)(6)**

From: Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Sent: Friday, May 19, 2023 11:13 AM
To: Freie, Michael (FAA) <michael.freie@faa.gov>
Subject: Tag up

Hi Mike,

Maybe it would be helpful for us to have a weekly tag up on the calendar if we need it to touch base on things. Let me know if that would be helpful to you. I wanted to follow-up on a few things.

Calendar:

1. There is a NASA hold on your calendar for Monday 5/22 @ 2pm. Is that real? If so, I need to

move mtg with Shirley. Yes, this is the prep for the 31st.

2. 5/25 – there is a NAS IAWG Hotwash that popped up. Do you need to attend that? If so, I need to rescheduled Common Support Brief. I do not plan to attend.
3. Are you attending Surveillance Workgroup on 5/31 besides the time you are at NASA? I was not planning to, but I have not thought about. Is there a concern, or just awareness?

Other:

1. How did PfMR go? Any follow-up actions? Went well. No action.
2. NASA UAP Independent Study Team public meeting May 31st 11am-12pm. Do you want to meet to discuss your slides? Yes, let us meet next week. Do we know when they are due? If not, I will ask on Monday.

Thanks,
Cassandra

Cassandra Walker (Bernards)

Strategic Planner, AJM-4

Telephone: (b) (6)

Office: FAA HQ FOB 10B 3W21EN

Cassandra.CTR.Walker@faa.gov

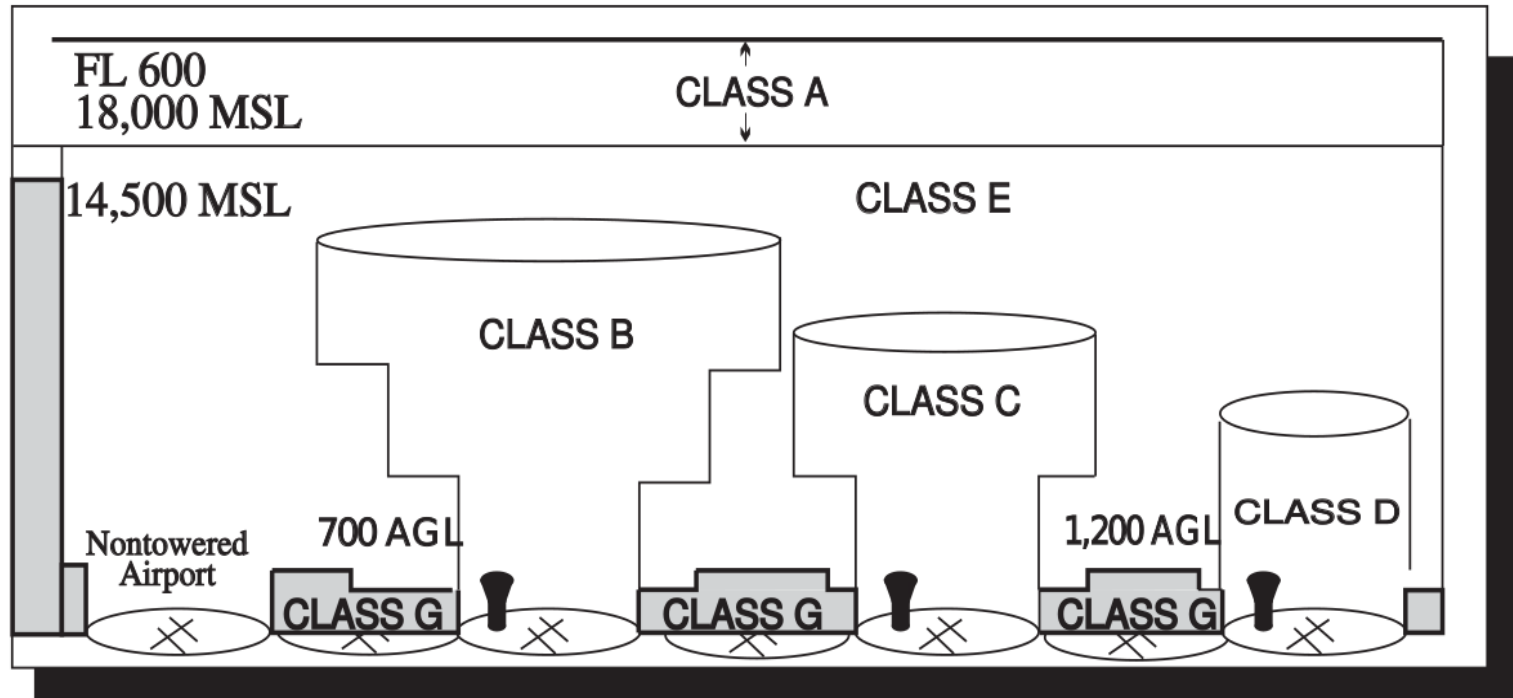
Federal Aviation Administration

Program Management Organization ([PMO](#))

Surveillance Services Directorate ([AJM-4](#))



Airspace Classes

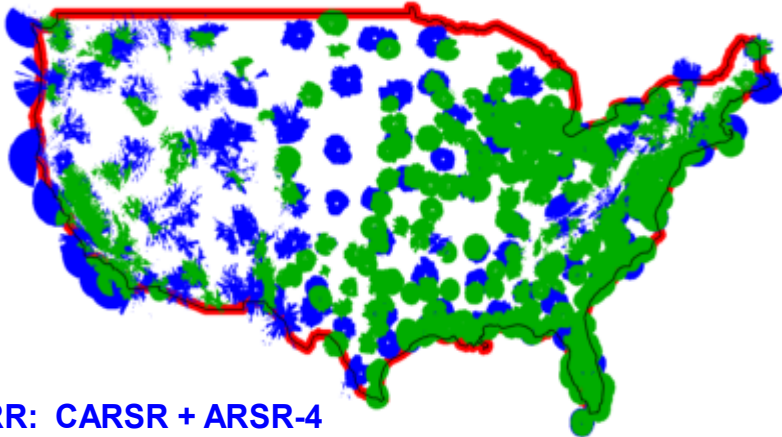


MSL - mean sea level
AGL - above ground level
FL - flight level



Radar LOS Coverage

1000 ft AGL



LRR: CARSR + ARSR-4
SRR: ASR + GPN

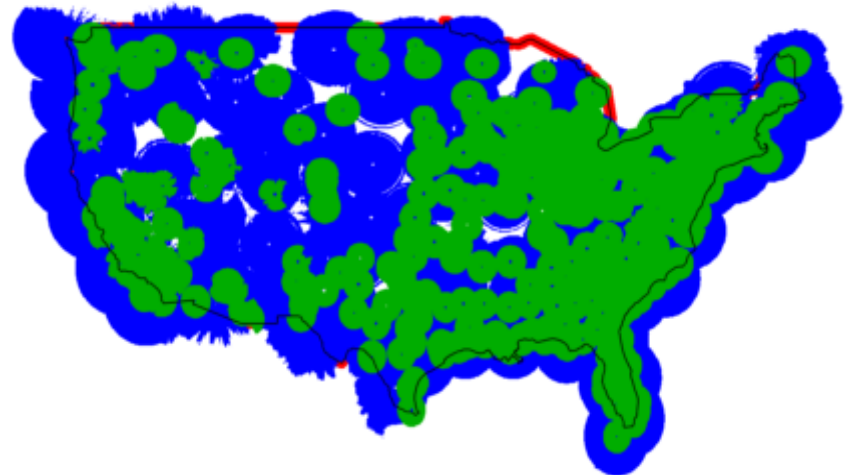
2000 ft AGL



5000 ft AGL

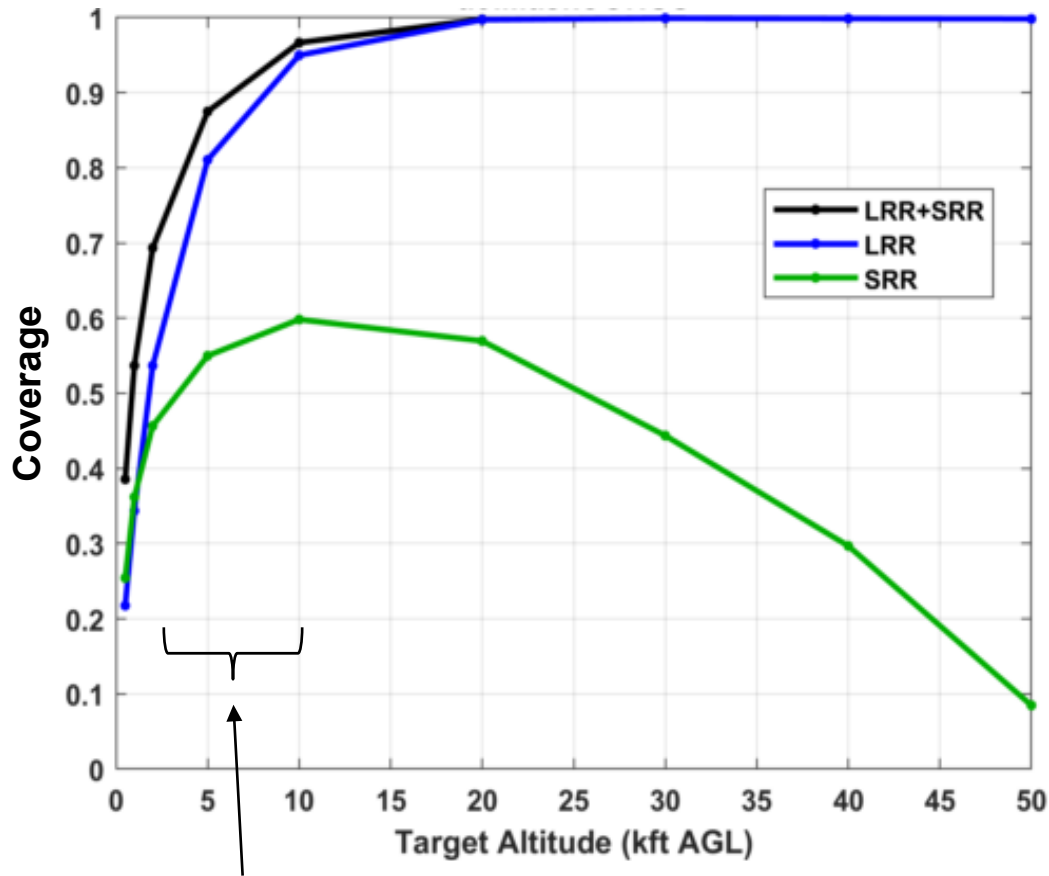


10000 ft AGL





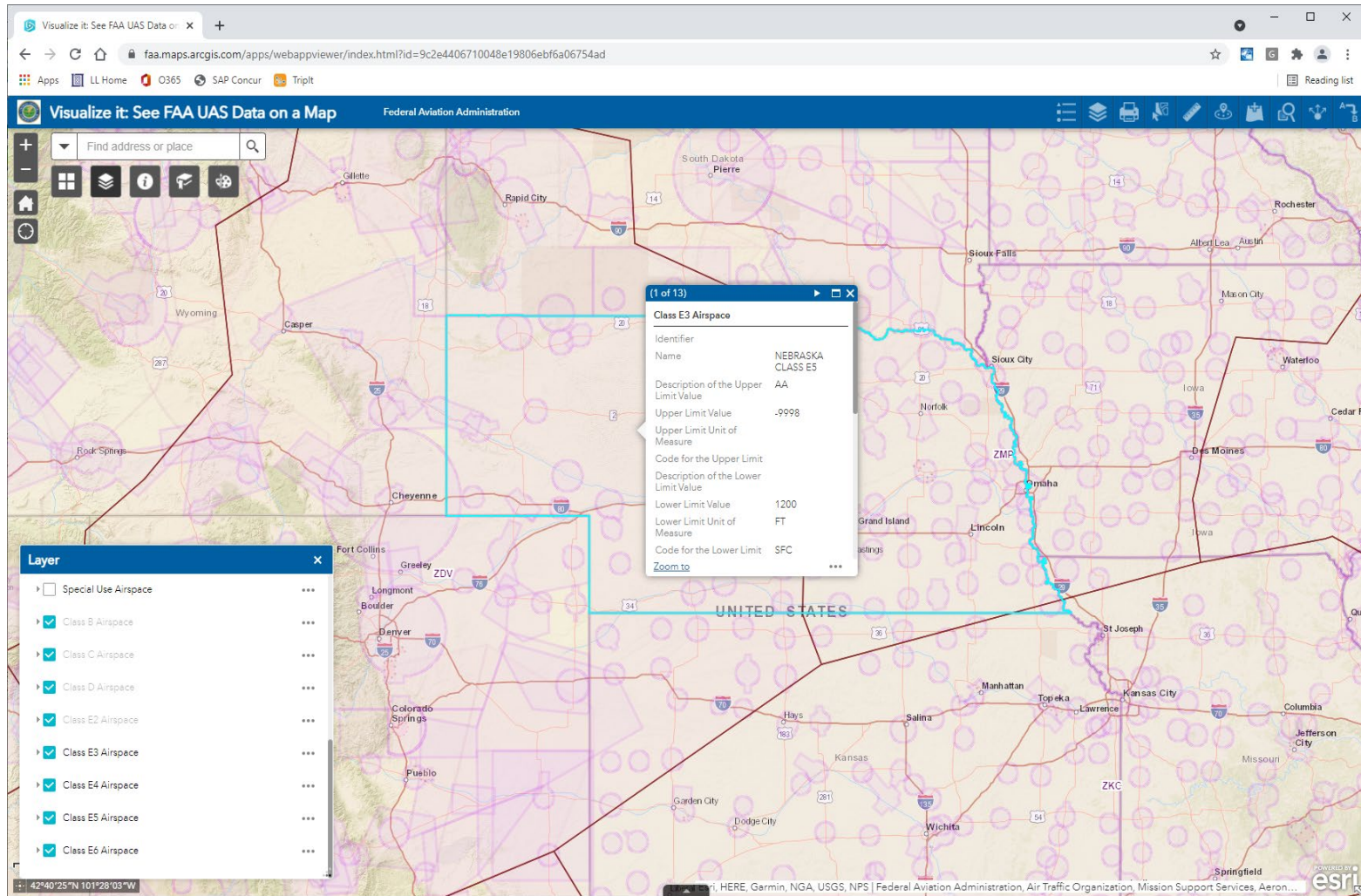
CONUS Coverage



Altitude regime of interest where transponder is not required in Class E airspace below 10kft under VMC conditions



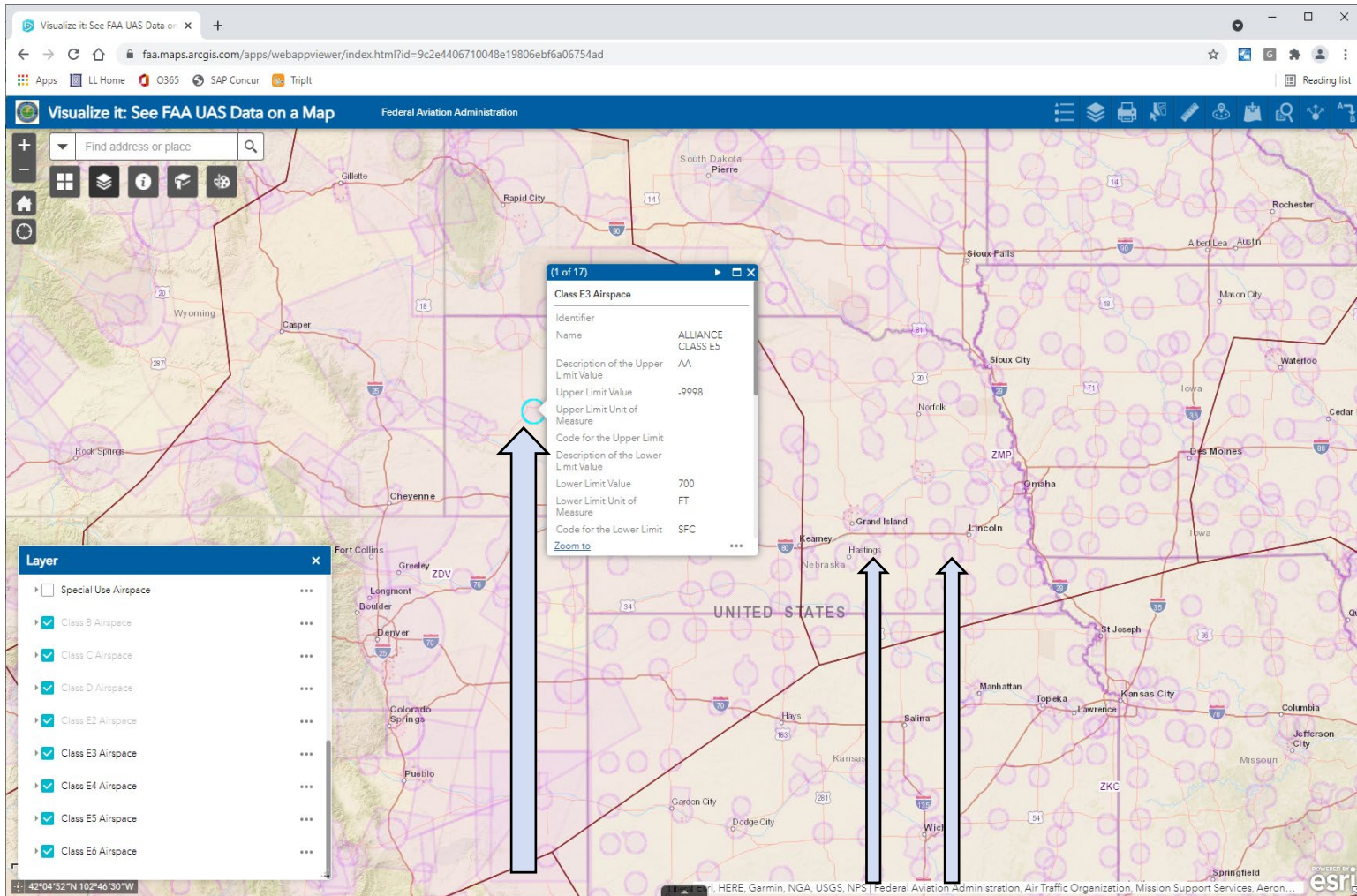
Class E Airspace Example



Class E airspace covers entire state of Nebraska from 1,200 ft AGL to 18,000 ft MSL; same applies for most other states in CONUS



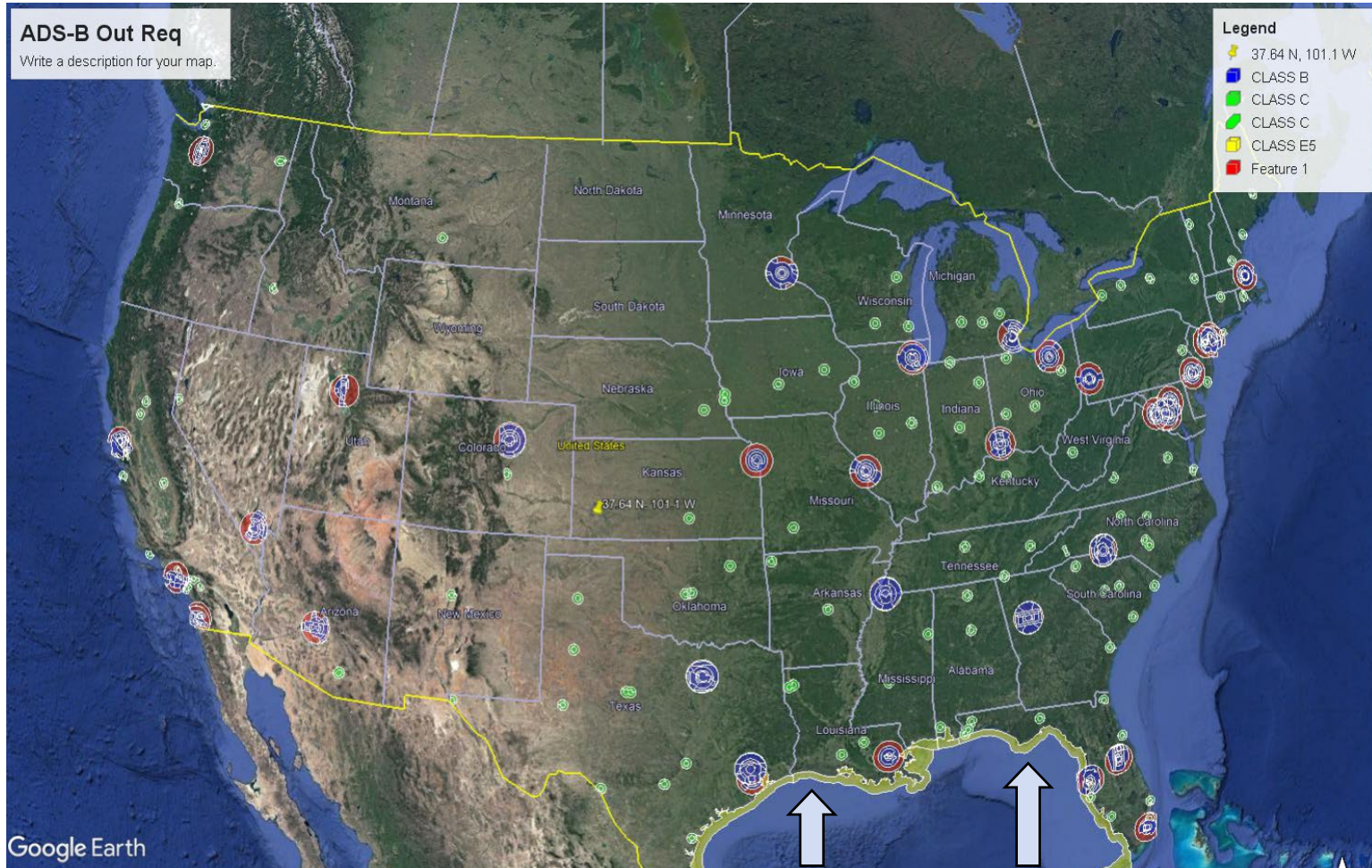
Class E Airspace Example



Areas of Class E airspace exist that begin at SFC or 700 ft AGL but we're not focused on those at this point in the analysis



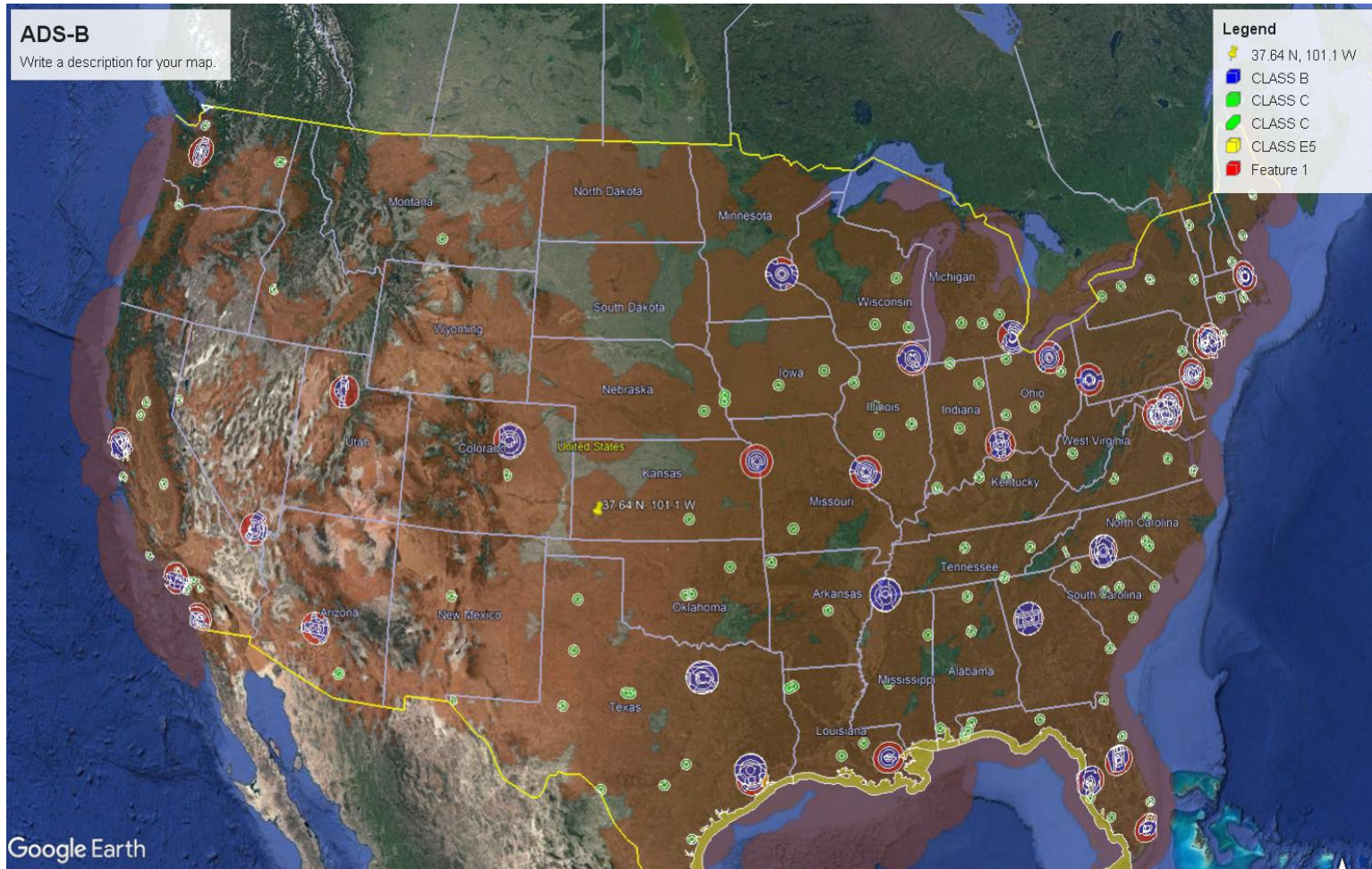
ADS-B Out Requirement Below 10,000 ft



Outside of Class B/C airspace, the only Class E airspace below 10kft that requires ADS-B Out is on the Gulf Coast








ADS-B Coverage at 1,500 ft AGL

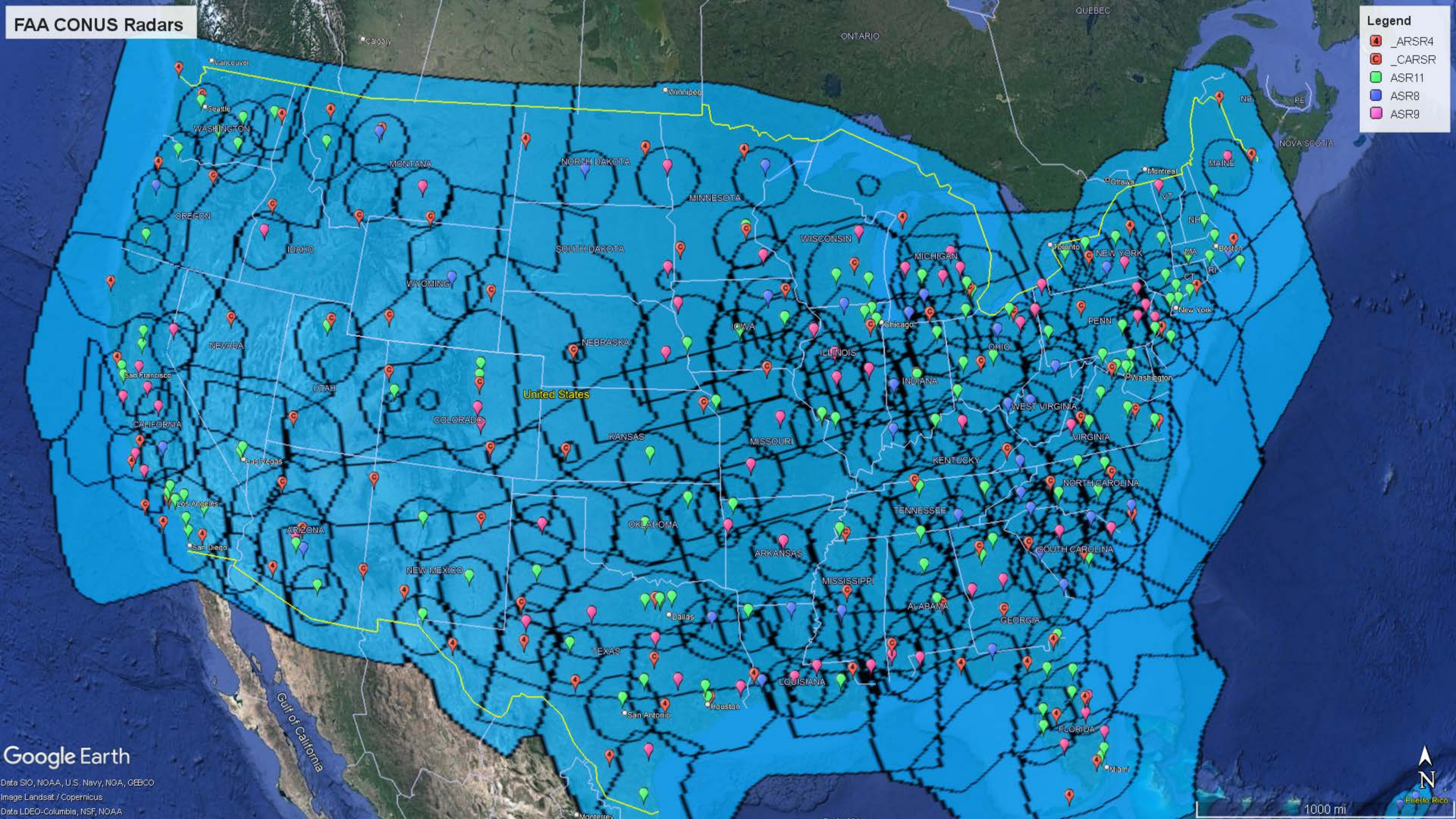


**Significant ADS-B coverage exists across CONUS at 1,500 ft AGL;
however, it is required in very spots below 10,000 ft**

FAA CONUS Radars

Legend

-  _ARSR4
-  _CARSR
-  ASR11
-  ASR8
-  ASR9



Google Earth

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
Data LDEO-Columbia, NSF, NOAA

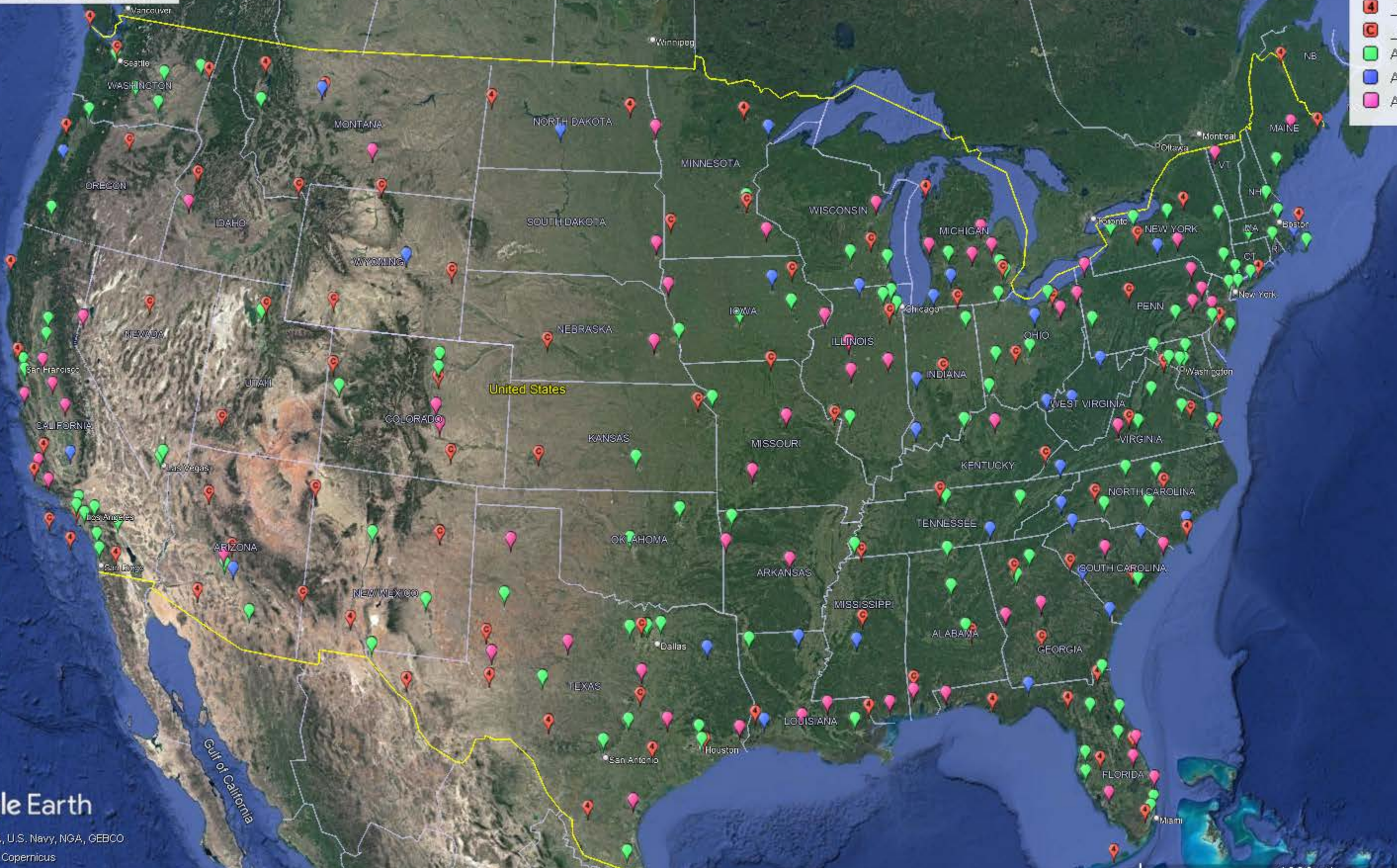
1000 mi



FAA CONUS Radars

Legend

-  _ARSR4
-  _CARSR
-  ASR11
-  ASR8
-  ASR9



Google Earth

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
Data LDEO-Columbia, NSF, NOAA



1000 mi

From: [Freie, Michael \(FAA\)](#)
To: [Emanuel, Michael \(FAA\)](#); [Walker, Cassandra CTR \(FAA\)](#)
Subject: RE: In search of May 31 speaker
Date: Monday, May 22, 2023 1:44:00 PM
Attachments: [image001.png](#)

Perfect. This is what was in my memory.

Mike

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Emanuel, Michael (FAA) <michael.emanuel@faa.gov>
Sent: Wednesday, May 17, 2023 1:10 PM
To: Freie, Michael (FAA) <michael.freie@faa.gov>; Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Subject: RE: In search of May 31 speaker

How about something like in the attached (chart 2).

Thanks

Michael Emanuel
FAA Technical Center
Atlantic City Intl. Airport, NJ 08405
Office: 609-485-4873
Email: Michael.Emanuel@faa.gov

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Wednesday, May 17, 2023 11:31 AM
To: Emanuel, Michael (FAA) <michael.emanuel@faa.gov>; Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Subject: RE: In search of May 31 speaker

The radar map is perfect.

I recall seeing coverage maps at various altitudes. Do you have those?

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Emanuel, Michael (FAA) <michael.emanuel@faa.gov>
Sent: Wednesday, May 17, 2023 8:44 AM
To: Freie, Michael (FAA) <michael.freie@faa.gov>; Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Subject: RE: In search of May 31 speaker

Mike – here are couple kick snap shots from Google Earth. One is just FAA radar locations, there other includes our coverage requirements. Not sure how useful the coverage image is, though you can make out the TRACON contours. The radar sites themselves are pre-divestiture but I suspect given the purpose of the graphic that level of detail is irrelevant.

I can manipulate the coverage picture to a better quality if you like. Devlan and Troy may have something more illustrative based on their tools though.

Thanks

Michael Emanuel
FAA Technical Center
Atlantic City Intl. Airport, NJ 08405
Office: 609-485-4873
Email: Michael.Emanuel@faa.gov

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Tuesday, May 16, 2023 8:24 PM
To: Emanuel, Michael (FAA) <michael.emanuel@faa.gov>; Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Subject: Re: In search of May 31 speaker

Awesome. Thanks

From: Emanuel, Michael (FAA) <michael.emanuel@faa.gov>
Sent: Tuesday, May 16, 2023 6:11:13 PM
To: Freie, Michael (FAA) <michael.freie@faa.gov>; Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Subject: Re: In search of May 31 speaker

Mike, I have flat earth google earth files with systems and coverage. I can send over a couple images to see if what I have is what you're thinking

Michael Emanuel
FAA Technical Center
Atlantic City Intl. Airport, NJ 08405
Phone: 609-485-4873
Email: Michael.Emanuel@faa.gov

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Tuesday, May 16, 2023 4:58 PM
To: Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Cc: Emanuel, Michael (FAA) <michael.emanuel@faa.gov>
Subject: RE: In search of May 31 speaker

Do we have any slides that show where we have terminal and enroute system locations and/or coverage?

I know Mike E has previously provided a slide from SENSr artifacts, but I can't find what he previously sent.

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Sent: Monday, May 15, 2023 5:05 PM
To: Freie, Michael (FAA) <michael.freie@faa.gov>
Subject: RE: In search of May 31 speaker

Hi Mike,

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Federal Aviation Administration

Cell – (b) (6)

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FAA, ATO Program Management Organization
202-267-2953

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AJM-4 ?

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Best wishes,
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(O) 202.358.3882 | (C) (b)(6)
Daniel.A.Evans@nasa.gov

From: [Freie, Michael \(FAA\)](#)
To: [Emanuel, Michael \(FAA\)](#)
Subject: RE: In search of May 31 speaker
Date: Monday, May 22, 2023 4:23:00 PM
Attachments: [image001.png](#)

I just looked at similar coverage (6K, 12K) pictures on the internet, as a sanity check. I just wanted to make sure I am not yelled at. Given they are LOS derived versus actual, not hard for anyone to generate them for themselves.

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Emanuel, Michael (FAA) <michael.emanuel@faa.gov>
Sent: Monday, May 22, 2023 4:18 PM
To: Freie, Michael (FAA) <michael.freie@faa.gov>; Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
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Mike – that is my recollection as well given they resolution of the images

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Mike,

I recall this LOS chart is not sensitive for public release. Can you confirm?

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(O) 202.358.3882 | (C) (b)(6)
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From: [Emanuel, Michael \(FAA\)](#)
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Subject: RE: In search of May 31 speaker
Date: Monday, May 22, 2023 6:16:30 PM
Attachments: [image001.png](#)

Yeah, there is something wrong with the note. If I had to guess it SHOULD say something like limited ADSB coverage at 1500AGL but significant coverage above 10K...and the image is coverage above 10K???

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On slide 7, the note at the bottom seems off. What do you think it is supposed to say?

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Mike

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Sent: Tuesday, May 9, 2023 2:56 PM
To: Freie, Michael (FAA) <michael.freie@faa.gov>
Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>; Gusky, Amy (FAA) <Amy.Gusky@faa.gov>; Boyd, Brooke (FAA) <brooke.boyd@faa.gov>; Jones, LaToya D-CTR (FAA) <LaToya.D-CTR.Jones@faa.gov>
Subject: RE: In search of May 31 speaker

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Karlin
Dr. Karlin Toner | Senior Advisor, Data Policy Integration | Federal Aviation Administration |
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Dr. Karlin Toner | Senior Advisor, Data Policy Integration | Federal Aviation Administration |

(b)(6) (mobile)

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Sent: Monday, May 8, 2023 10:59 AM

To: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>

Subject: RE: In search of May 31 speaker

Mike is great and knows that arena well! He'd be great.

Joshua Edward Gustin

Director, Telecommunications Integrated Services Office (Acting, AJM-5)

FAA, ATO Program Management Organization

202-267-2953

From: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>

Sent: Monday, May 8, 2023 9:57 AM

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Subject: FW: In search of May 31 speaker

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Thanks,

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To: Manikoth, Natesh (FAA) <natesh.manikoth@faa.gov>; Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
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Subject: RE: In search of May 31 speaker

AJM-4 ?

From: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Sent: Monday, May 8, 2023 7:33 AM
To: Manikoth, Natesh (FAA) <natesh.manikoth@faa.gov>; Bradford, Steve (FAA) <Steve.Bradford@faa.gov>
Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>
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Warren and I appreciate your help on this.

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Sent: Thursday, May 4, 2023 7:49 PM
To: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>; Randolph, Warren (FAA)

<warren.randolph@faa.gov>

Subject: In search of May 31 speaker

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Best wishes,
Dan



Daniel A. Evans, Ph.D.
Asst. Dep. Associate Administrator for Research
NASA Headquarters
Science Mission Directorate
Mary W. Jackson NASA Headquarters Building
300 Hidden Figures Way SW, Washington, D.C. 20546
(O) 202.358.3882 | (C) (b)(6)
Daniel.A.Evans@nasa.gov

From: [Walker, Cassandra CTR \(FAA\)](#)
To: [Freie, Michael \(FAA\)](#)
Subject: RE: In search of May 31 speaker
Date: Tuesday, May 23, 2023 4:32:12 PM
Attachments: [image001.png](#)

Of course, I will take a look.

Cassandra

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Tuesday, May 23, 2023 4:15 PM
To: Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Subject: RE: In search of May 31 speaker

My thoughts attached.

I could not change the slide master/template for the slide titles. I was thinking "National Airspace System Surveillance" versus the existing "AJM-4 Introduction to Aviation Surveillance" titles.

I could use your scrub for errors, wording etc.

Mike

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Technical Advisor, Surveillance Services, AJM-4
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Cell – (b)(6)

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To: Freie, Michael (FAA) <michael.freie@faa.gov>
Subject: RE: In search of May 31 speaker

Sounds good, thank you.

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Monday, May 22, 2023 4:10 PM
To: Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
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I am close to having my input consolidated based on what you and Mike E have provided. I will send you my draft which will require some clean up.

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Federal Aviation Administration

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From: Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>

Sent: Monday, May 15, 2023 5:05 PM

To: Freie, Michael (FAA) <michael.freie@faa.gov>

Subject: RE: In search of May 31 speaker

Hi Mike,

Here are some slides that cover into to surveillance concepts. Let me know which slide/slides you like or if you want me to work on new slides.

Cassandra

From: Freie, Michael (FAA) <michael.freie@faa.gov>

Sent: Tuesday, May 9, 2023 3:05 PM

To: Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>

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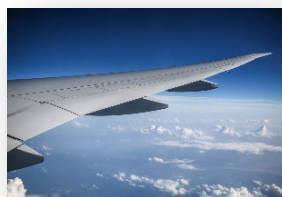
**Federal Aviation
Administration**

National Airspace System Surveillance





United States National Airspace System (NAS) Operations



- **5,300,000 square miles of U.S. domestic airspace**
- **24,100,000 square miles of oceanic airspace**

- **14,000 (plus) Air Traffic Controllers**
 - **520 Air Traffic Control Towers**
 - **147 Terminal Approach Control Facilities**
 - **21 Air Route Traffic Control Centers**

- **19,633 airports**

United States NAS Operations (continued)

Air Traffic Services are provided by Controllers who rely on various systems to safely and efficiently **guide aircraft from gate to gate**, and in doing so, transitioning from different **airspace domains** (Surface, Terminal and En-Route).

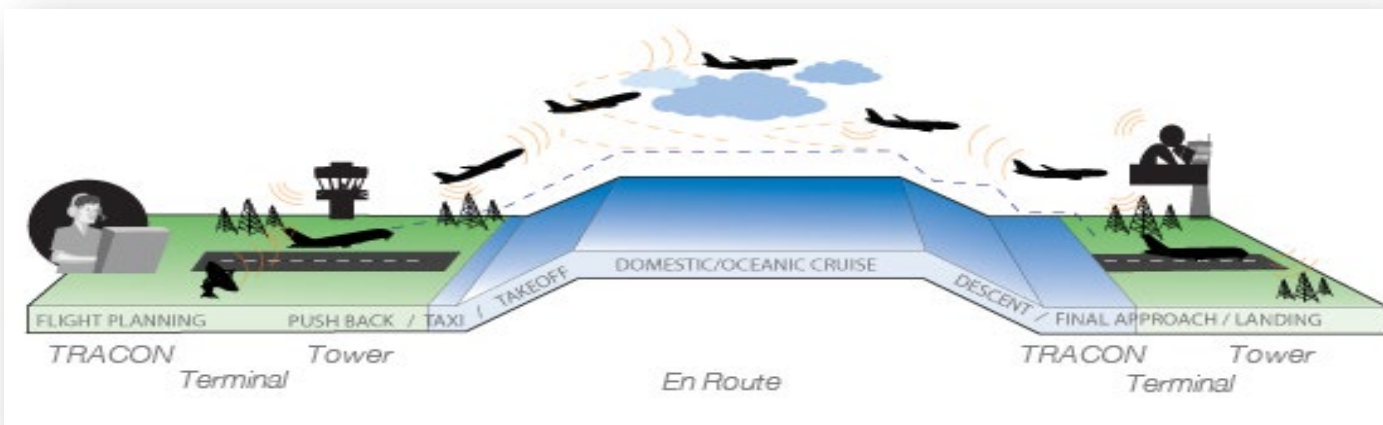


Image of an Aircraft Transitioning from Different Airspace Domains (e.g., Terminal, En-Route)

FAA by the Numbers

- 16,405,000 flights handled by the FAA yearly
- 45,000 average daily flights handled by the FAA
 - 5,400 aircraft in the sky at peak time
- 25,506,000 General Aviation flight Hours per year
- Aviation contributed 5.2% of the U.S. gross domestic product (GDP)
 - \$488 Billion annual earnings from aviation

https://www.faa.gov/air_traffic/by_the_numbers/

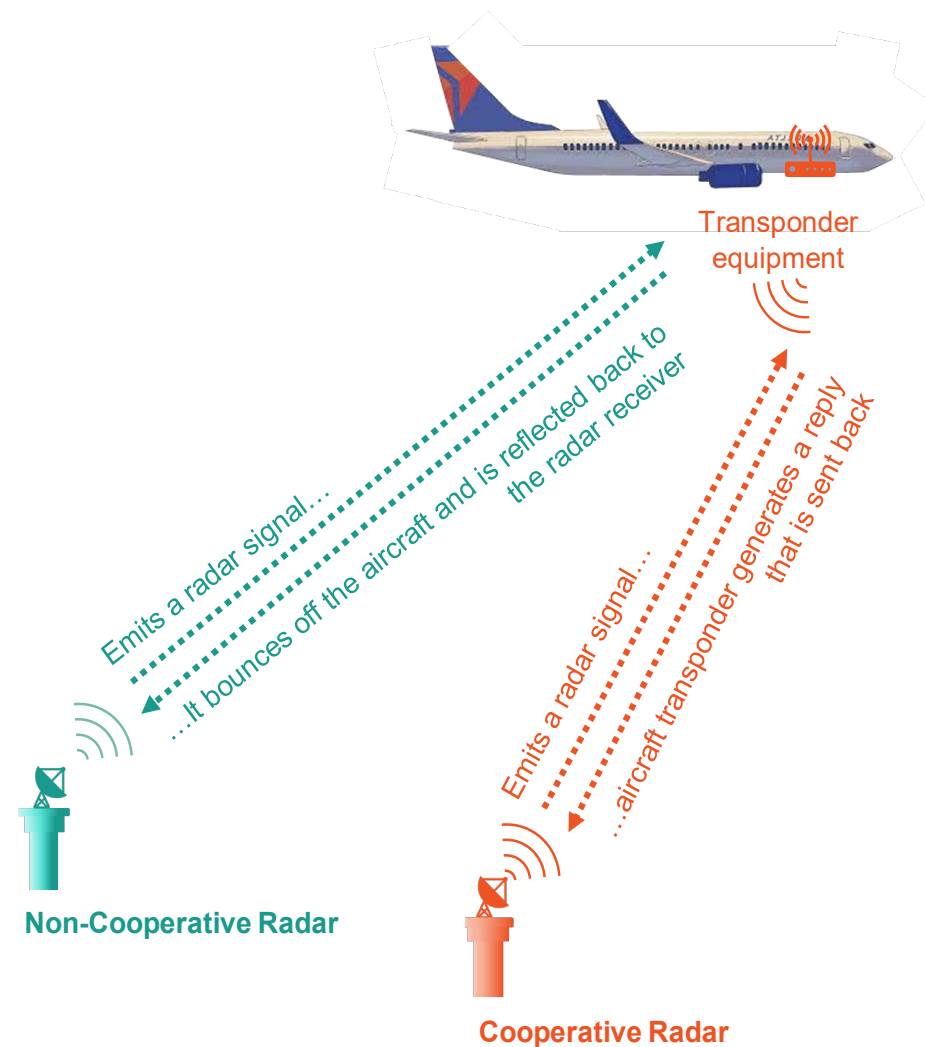
Surveillance Services Categories

Cooperative Surveillance - Requires avionics on board the aircraft that work in coordination with ground-based systems to determine the aircraft position, altitude, and identity.

- A second radar beacon antenna attached to the top of non-cooperative radar antenna transmits and receives aircraft data for barometric altitude, identification code, and emergency condition.

Non-Cooperative Surveillance – Determines an aircraft's position independently, without the use of on-board avionics.

- Track aircraft not equipped with avionics or with failed avionics
- Provide air traffic control weather information



Types of Surveillance Systems

Short-Range Radar – Non-cooperative and Cooperative sensors

- Coverage: 40 to 60 nautical mile (NM) ranges from the radar sensor
- Use:
 - Control aircraft in Terminal airspace around airports
 - Gap filler coverage of En-Route airspace where long-range radars not available

Long-Range Radar – Non-cooperative and Cooperative sensors

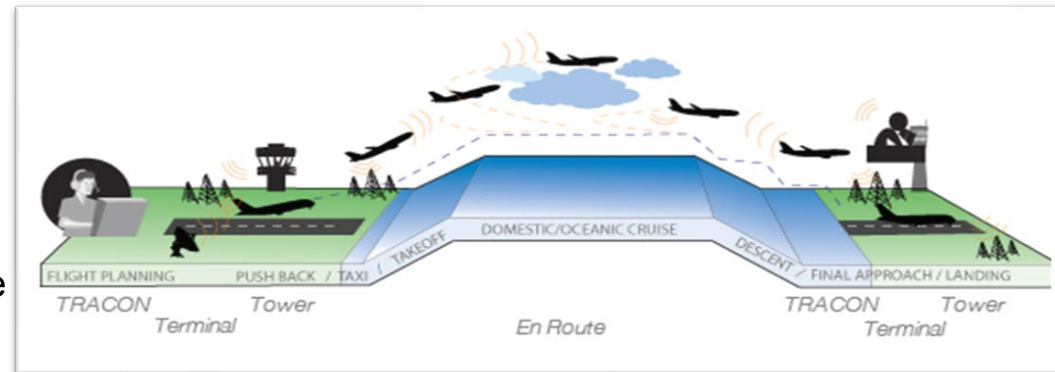
- Coverage: 200 to 250 NM nautical miles (NM) from the radar sensor
- Use:
 - Control aircraft in En-Route airspace to flying between 18,000 and 60,000 feet above sea level (Class A airspace)
 - Some coverage of Terminal airspaces where short-range radars not available

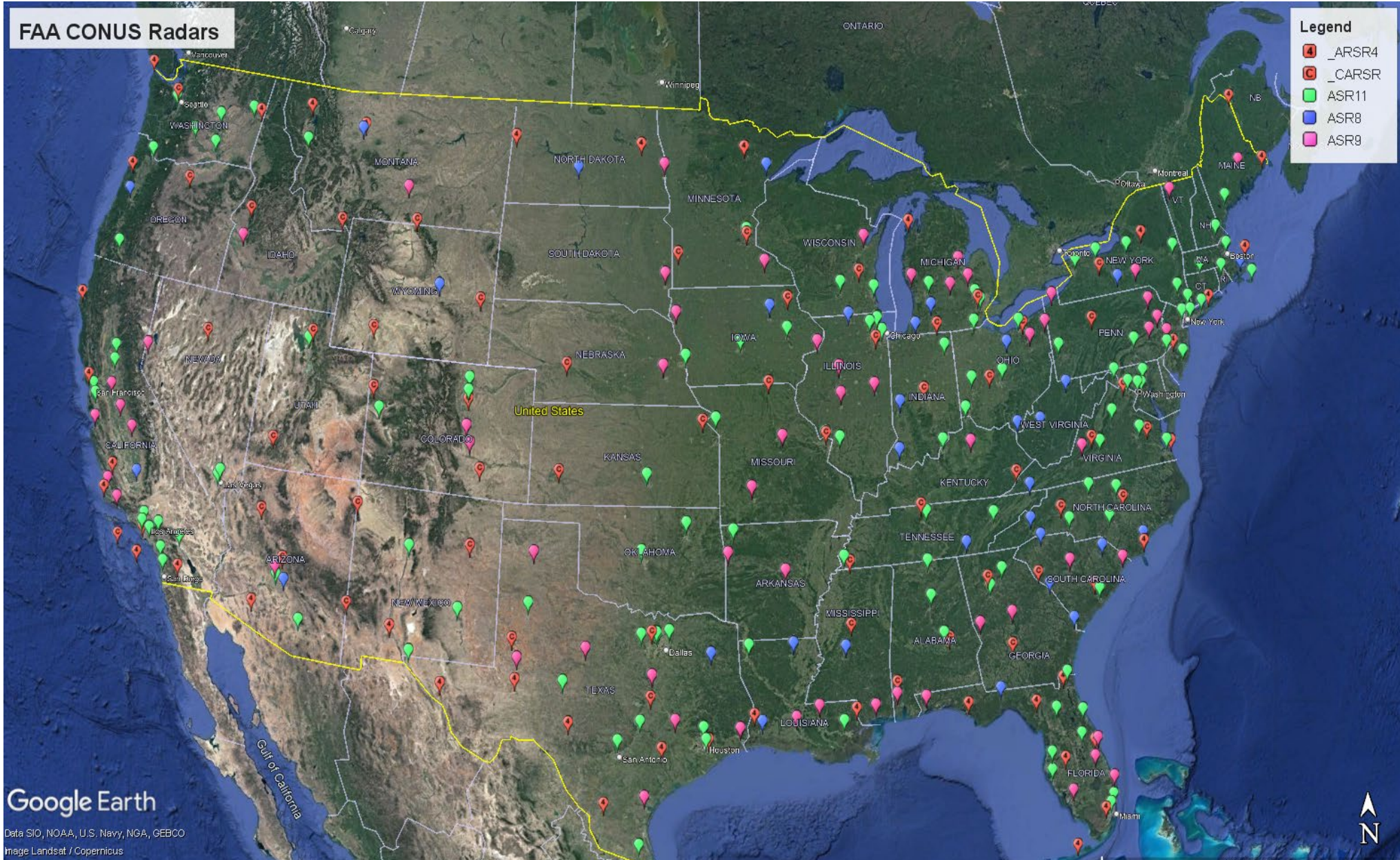
Automatic Dependent Surveillance-Broadcast (ADS-B) – Cooperative (ADS-B equipped aircraft position via Satellite GPS)

- Coverage: Over 600 ground stations across the US - No range limitations within ground station coverage
- Use:
 - Control aircraft in Surface, Terminal and En-Route airspace
 - Aircraft position data very accurate and high update rate

Surface Surveillance – Non-cooperative and Cooperative

- Coverage: Airports surface and on approach and departure paths
- Use:
 - Provides situational awareness on the airport movement areas and 1-2 miles into approach corridors







Radar LOS Coverage Above Ground Level (AGL)

1000 ft AGL



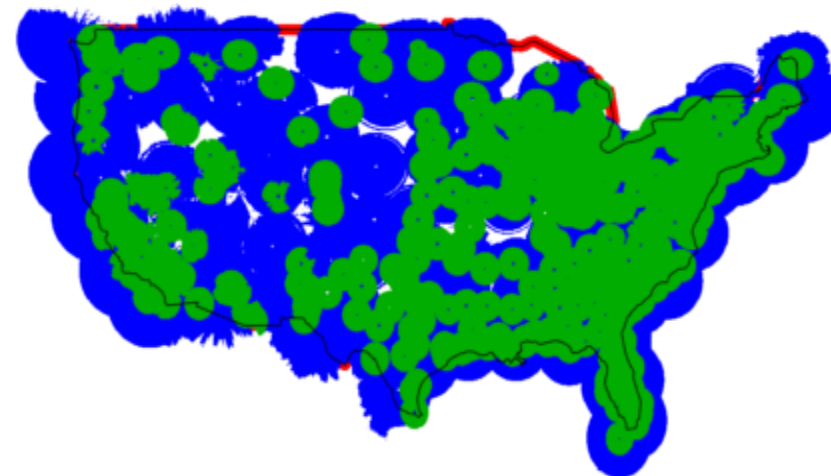
2000 ft AGL



5000 ft AGL



10000 ft AGL

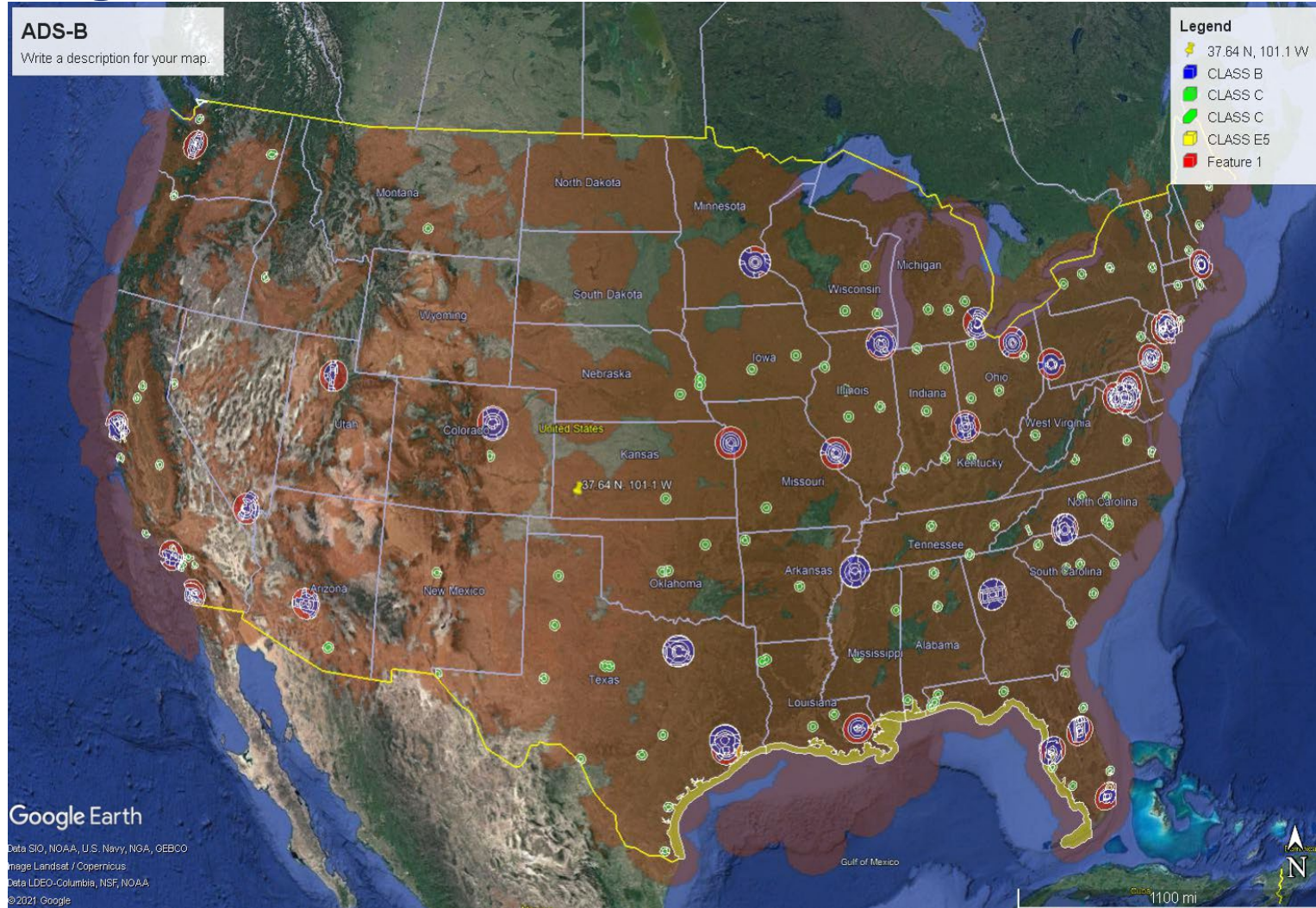


Non-Cooperative Long Range
Radar Systems

Non-Cooperative Short Range
Radar systems



ADS-B Coverage at 1,500 ft AGL



Significant ADS-B coverage exists across CONUS at 1,500 ft AGL

From: [Freie, Michael \(FAA\)](#)
To: [Walker, Cassandra CTR \(FAA\)](#)
Subject: RE: In search of May 31 speaker
Date: Friday, May 26, 2023 1:16:00 PM
Attachments: [image001.png](#)

Thanks. I sent you the POC for the May 31st slides. I suggest you also CC Karlin and Warren as well.

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Sent: Friday, May 26, 2023 12:30 PM
To: Freie, Michael (FAA) <michael.freie@faa.gov>
Subject: RE: In search of May 31 speaker

Hi Mike,

Attached is the final presentation without notes and the PDF version as well. Do you know who I should send the slides to? Ebony? or the full distro below?

Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Randolph, Warren (FAA) <warren.randolph@faa.gov>
Jones, LaToya D-CTR (FAA) <LaToya.D-CTR.Jones@faa.gov>
Hooker, Ebony S-CTR (FAA) Ebony.S-CTR.Hooker@faa.gov

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Friday, May 26, 2023 10:45 AM
To: Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Subject: RE: In search of May 31 speaker

Comments below. The deck looks good. Can I get you to delete the notes for the version we send over.

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Sent: Wednesday, May 24, 2023 12:07 PM
To: Freie, Michael (FAA) <michael.freie@faa.gov>

Subject: RE: In search of May 31 speaker

Hi Mike,

See attached. I made updates to almost every slide but I have a few additional comments below.

Comments:

Slide 1 – Should we add your name and title? Or are they doing a separate intro? **I don't believe this is necessary.**

Slide 6 - Do we need to specify that this is showing CONUS short range and long range Non-Cooperative Radars? Or are you speaking to this. **I will speak to this and other DOD/DHS systems not considered in the coverage.**

Slide 7 - Spell out LOS. I forget – Is it length of signal or length of service? I changed the key – We never identified CARSRs and ARSs previously so not sure it makes sense to list them like that. I didn't know what GPN referred to either. **LOS = Line of Sight. GPN = Joint Electronics Type Designation System (Ground, Radar, Navigation Aid). It is not an acronym.**

Thanks,
Cassandra

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Cell – (b)(6)

From: Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Sent: Monday, May 15, 2023 5:05 PM
To: Freie, Michael (FAA) <michael.freie@faa.gov>
Subject: RE: In search of May 31 speaker

Hi Mike,

Here are some slides that cover into to surveillance concepts. Let me know which slide/slides you like or if you want me to work on new slides.

Cassandra

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Tuesday, May 9, 2023 3:05 PM
To: Walker, Cassandra CTR (FAA) <Cassandra.CTR.Walker@faa.gov>
Subject: FW: In search of May 31 speaker

I could use your help in flagging a few slides to provide a surveillance 101. I am thinking basic non-cooperative, cooperative, ADS-B and a second rule airspace “cake” slide

If you would like to discuss to get a better understanding what I am thinking, happy to support.

Mike

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration

Cell – (b) (6)

From: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Sent: Tuesday, May 9, 2023 2:56 PM
To: Freie, Michael (FAA) <michael.freie@faa.gov>
Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>; Gusky, Amy (FAA) <Amy.Gusky@faa.gov>; Boyd, Brooke (FAA) <brooke.boyd@faa.gov>; Jones, LaToya D-CTR (FAA) <LaToya.D-CTR.Jones@faa.gov>
Subject: RE: In search of May 31 speaker

Hi Mike,

This is great news. As the expert, if you feel a couple slides will be beneficial, I'm happy to tell NASA that is what FAA needs to best articulate airspace surveillance.

Would you like me to set up a call to address any other questions that you might have? If needed, I will ask LaToya Jones to help coordinate my calendar.

Best,

Karlin

Dr. Karlin Toner | Senior Advisor, Data Policy Integration | Federal Aviation Administration |

(b)(6) (mobile)

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Tuesday, May 9, 2023 2:48 PM
To: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>; Gusky, Amy (FAA) <Amy.Gusky@faa.gov>; Boyd, Brooke (FAA) <brooke.boyd@faa.gov>
Subject: RE: In search of May 31 speaker

Karlin,

I should be able to support this event.

I would appreciate a little more information regarding the format for the event. You indicate no slides are needed to support this discussion. While this could be accommodated, a couple of slides would probably be beneficial to help articulate FAA airspace surveillance. Seeking your feedback.

Mike

Mike Freie

Technical Advisor, Surveillance Services, AJM-4

Federal Aviation Administration

Cell – (b) (6)

From: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Sent: Monday, May 8, 2023 11:36 AM
To: Freie, Michael (FAA) <michael.freie@faa.gov>
Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Subject: FW: In search of May 31 speaker

Hello Mike,

My colleagues have recommended that you would be an excellent FAA speaker to discuss air domain surveillance, with a particular focus on establishing a baseline of exactly how many objects are in US airspace at a given time, e.g. planes, UAS, balloons, etc. We are looking for a presenter for the NASA UAP Independent Study Team public meeting on May 31 between 11:30a-noon. Would you be available to support this request?

As background, Warren Randolph and I are FAA employees who are also members of NASA's Independent Study Team (see <https://science.nasa.gov/uap>) The Study Team operates under FACA rules, and we are preparing for public deliberations in advance of our final report this summer. NASA will convene the May 31 meeting at NASA HQ, which is located a few blocks from FAA HQ. As an expert on surveillance, we would need you to describe the basics of how civil airspace is surveilled by the FAA. You may receive clarifying questions from scientists on our panel, but, you won't be responding to public questions. In general, we are not planning to use slides for the short presentations (not more than 10-20 minutes to cover each topic on our agenda).

I'd be happy to set up a call to answer questions that you may have and I'm hoping that you will be able to support us. Please let me know.

Thank you,

Karlin

Dr. Karlin Toner | Senior Advisor, Data Policy Integration | Federal Aviation Administration |
(b)(6) (mobile)

From: Gustin, Joshua (FAA) <joshua.gustin@faa.gov>
Sent: Monday, May 8, 2023 10:59 AM
To: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Subject: RE: In search of May 31 speaker

Mike is great and knows that arena well! He'd be great.

Joshua Edward Gustin

*Director, Telecommunications Integrated Services Office (Acting, AJM-5)
FAA, ATO Program Management Organization
202-267-2953*

From: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Sent: Monday, May 8, 2023 9:57 AM
To: Gustin, Joshua (FAA) <joshua.gustin@faa.gov>
Subject: FW: In search of May 31 speaker

Hi Josh,

I'm looking for an FAA speaker who can talk about air domain surveillance, with a particular focus on establishing a baseline of exactly how many objects are in US airspace at a given time, e.g., planes, UAS, balloons, etc. on May 31 at the NASA UAP Independent Study Team public meeting. This will be a short, basic surveillance 101 talk.

Natesh and Steve have suggested Mike Frieie from AJM-4. I wanted to quickly confirm from your data view within ATO that this would be a logical choice before I reach out to Mike (who I don't know).

Thanks,

Karlin

Dr. Karlin Toner | Senior Advisor, Data Policy Integration | Federal Aviation Administration |
(b)(6) (mobile)

From: Bradford, Steve (FAA) <Steve.Bradford@faa.gov>
Sent: Monday, May 8, 2023 8:00 AM
To: Manikoth, Natesh (FAA) <natesh.manikoth@faa.gov>; Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Subject: RE: In search of May 31 speaker

I think Mike Freie, he is the acting deputy and very knowledgeable. Ran the SENSR program after Rebecca.

From: Manikoth, Natesh (FAA) <natesh.manikoth@faa.gov>
Sent: Monday, May 8, 2023 7:52 AM
To: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>; Bradford, Steve (FAA) <Steve.Bradford@faa.gov>
Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Subject: RE: In search of May 31 speaker

AJM-4 ?

From: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Sent: Monday, May 8, 2023 7:33 AM
To: Manikoth, Natesh (FAA) <natesh.manikoth@faa.gov>; Bradford, Steve (FAA) <Steve.Bradford@faa.gov>
Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Subject: FW: In search of May 31 speaker

Natesh, Steve,

We'd like to have someone who is not a UAP panel member speak at the public meeting on May 31 on the topics the DFO has outlined below. If not one of you, could you please help me identify who would be best from FAA and I'll work to establish availability?

The public meeting will be held at NASA HQ beginning about 10a on May 31. The speaker would not have to stay for the full session. Public input will be taken virtually and the location of the meeting will not be disclosed in the federal register announcement. No more than 10-20 minutes will be allotted since the agenda will be tightly timed.

Warren and I appreciate your help on this.

Best,

Karlin

From: Evans, Daniel A. (HQ-DA000) <daniel.a.evans@nasa.gov>
Sent: Thursday, May 4, 2023 7:49 PM
To: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>; Randolph, Warren (FAA) <warren.randolph@faa.gov>
Subject: In search of May 31 speaker

Hi Karlin and Warren,

I hope you're both well. I'm writing to ask for your help in identifying a speaker for the May 31 Independent Study Public Meeting. What we're after is someone who can speak about air domain surveillance, with a particular focus on establishing a baseline of exactly how many objects are in US airspace at a given time, e.g., planes, UAS, balloons, etc. I asked the ODNI National Intelligence Manager for Aviation (NIM-A) if they could do it, but he and his staff will be out of the office attending a funeral of a colleague on May 31. Is there anyone from FAA who might be able to help us?

Best wishes,
Dan



Daniel A. Evans, Ph.D.
Asst. Dep. Associate Administrator for Research
NASA Headquarters
Science Mission Directorate
Mary W. Jackson NASA Headquarters Building
300 Hidden Figures Way SW, Washington, D.C. 20546
(O) 202.358.3882 | (C) (b)(6)
Daniel.A.Evans@nasa.gov

From: [Rohloff, Katherine A. \(HQ-NA020\)](#)
To: [Freie, Michael \(FAA\)](#)
Cc: [Garner, Terria K \(FAA\)](#); [Molinaro, Tony \(FAA\)](#)
Subject: RE: [EXTERNAL] RE: Request for Opening statement from independent study meeting
Date: Wednesday, May 31, 2023 3:30:57 PM

Great, thank you!

Katherine Rohloff
Press Secretary | Science Mission Directorate
Office of Communications | NASA Headquarters
C: (b)(6)
katherine.a.rohloff@nasa.gov

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Wednesday, May 31, 2023 3:27 PM
To: Rohloff, Katherine A. (HQ-NA020) <katherine.a.rohloff@nasa.gov>
Cc: Garner, Terria K (FAA) <Terria.K.Garner@faa.gov>; Molinaro, Tony (FAA) <Tony.Molinaro@faa.gov>
Subject: [EXTERNAL] RE: Request for Opening statement from independent study meeting

Katherine,

Glad to have had the opportunity. I did not have prepared opening remarks.

Mike

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell - (b)(6)

From: Rohloff, Katherine A. (HQ-NA020) <katherine.a.rohloff@nasa.gov>
Sent: Wednesday, May 31, 2023 3:20 PM
To: Freie, Michael (FAA) <michael.freie@faa.gov>
Cc: Garner, Terria K (FAA) <Terria.K.Garner@faa.gov>; Molinaro, Tony (FAA) <Tony.Molinaro@faa.gov>
Subject: Request for Opening statement from independent study meeting

Hi Mike,

Thank you again for presenting at the UAP Independent Study meeting today. We have had multiple reporter requests for the opening statements from the meeting. We would like to include yours on our [website](#) for the press to use, if you wrote out your statement and read off of it directly (not talking points), can you please send it to me? Otherwise, if you used talking points, I will direct reporters to rewatch your section online.

Best,
Katherine

Katherine Rohloff
Press Secretary | Science Mission Directorate
Office of Communications | NASA Headquarters
C: (b)(6)
katherine.a.rohloff@nasa.gov

From: [Freie, Michael \(FAA\)](#)
To: [Randolph, Warren \(FAA\)](#); [Toner, Karlin \(FAA\)](#)
Subject: RE: Many Thanks!
Date: Thursday, June 1, 2023 9:48:00 AM

Thanks Warren.

A data point that will likely play into the panel and recommendations – After my briefing, Shawn mentioned to me that DOD has been capturing all radar data for at least 10+ years. I was not aware of this.

I note that there has been historical FAA sensitivities for release of FAA flight (surveillance) data, and in particular Sensitive Flight Data (SFD) (DOD, CBP, law enforcement). AJR and the NAS Data Release Board manage this process. As the UAP panel continues its work, we will need to navigate the details of how and what FAA surveillance data is made available to support the findings of the panel. Perhaps the data connection Shawn identified will be a viable path, but even this will likely need discussion with AJR-R.

Mike

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Sent: Thursday, June 1, 2023 9:22 AM
To: Freie, Michael (FAA) <michael.freie@faa.gov>; Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Subject: Re: Many Thanks!

Mike-

Allow me to add my sincere gratitude for your time and wisdom. You perfectly scaled the level of detail and messaging for the event. As Karlin mentioned, several fellow panelists are excited about potential research utilizing civilian surveillance data.

For what it is worth, I actually learned something as well = our short range, non-cooperative capability at varying altitudes.

Best,

Warren

From: Freie, Michael (FAA) <michael.freie@faa.gov>

Sent: Thursday, June 1, 2023 8:58:55 AM
To: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Subject: RE: Many Thanks!

Thanks Karlin. Happy to help.

It was interesting to watch, and I look forward to the report.

The real thanks is to you and Warren as your participation continues.

Mike

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Sent: Thursday, June 1, 2023 8:03 AM
To: Freie, Michael (FAA) <michael.freie@faa.gov>
Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Subject: Many Thanks!

Hi Mike,

It was nice to meet you yesterday. I just want to say thank you again for sharing your knowledge of FAA surveillance with the NASA UAP team (as well as many TV viewers). Several of my colleagues commented that the information was helpful in understanding what FAA does or doesn't capture with our data.

Best,

Karlin

From: [Freie, Michael \(FAA\)](#)
To: [Evans, Daniel A. \(HQ-DA000\)](#)
Subject: RE: Thank you!
Date: Thursday, June 1, 2023 2:46:00 PM
Attachments: [image002.png](#)

Dan,

Thank you. I enjoyed the opportunity. NASA put on a very professional event, and I learned a lot. An amazing amount of press coverage. I look forward to the panel findings and the long-term direction the study takes the science behind UAP.

Mike

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Evans, Daniel A. (HQ-DA000) <daniel.a.evans@nasa.gov>
Sent: Thursday, June 1, 2023 2:27 PM
To: Freie, Michael (FAA) <michael.freie@faa.gov>
Subject: Thank you!

Hi Mike,

I wanted to drop you a quick note to say thanks so much for agreeing to present at our meeting yesterday. The panel really got a lot out of your insightful remarks and analysis, and all of us appreciate you being there. By the way, here is a link to the official photostream, including a nice one of you: <https://flic.kr/s/aHBqjAFZDT>

All the best,
Dan



Daniel A. Evans, Ph.D.
Asst. Dep. Associate Administrator for Research
NASA Headquarters
Science Mission Directorate
Mary W. Jackson NASA Headquarters Building
300 Hidden Figures Way SW, Washington, D.C. 20546
(O) 202.358.3882 | (C) (b)(6)
Daniel.A.Evans@nasa.gov

From: [Freie, Michael \(FAA\)](#)
To: [Randolph, Warren \(FAA\)](#)
Subject: RE: NASA Official Photos
Date: Friday, June 2, 2023 1:27:00 PM

Thanks!

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Sent: Friday, June 2, 2023 11:08 AM
To: Freie, Michael (FAA) <michael.freie@faa.gov>; Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Subject: NASA Official Photos

Hi Mike –

Here is NASA's official photo link for the event: <https://flic.kr/s/aHBqjAFZDT> You'll recognize someone in the last photo. Feel free to share.

Warren

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Thursday, June 1, 2023 9:48 AM
To: Randolph, Warren (FAA) <warren.randolph@faa.gov>; Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Subject: RE: Many Thanks!

Thanks Warren.

A data point that will likely play into the panel and recommendations – After my briefing, Shawn mentioned to me that DOD has been capturing all radar data for at least 10+ years. I was not aware of this.

I note that there has been historical FAA sensitivities for release of FAA flight (surveillance) data, and in particular Sensitive Flight Data (SFD) (DOD, CBP, law enforcement). AJR and the NAS Data Release Board manage this process. As the UAP panel continues its work, we will need to navigate the details of how and what FAA surveillance data is made available to support the findings of the panel. Perhaps the data connection Shawn identified will be a viable path, but even this will likely need discussion with AJR-R.

Mike

Mike Freie

Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Sent: Thursday, June 1, 2023 9:22 AM
To: Freie, Michael (FAA) <michael.freie@faa.gov>; Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Subject: Re: Many Thanks!

Mike-

Allow me to add my sincere gratitude for your time and wisdom. You perfectly scaled the level of detail and messaging for the event. As Karlin mentioned, several fellow panelists are excited about potential research utilizing civilian surveillance data.

For what it is worth, I actually learned something as well = our short range, non-cooperative capability at varying altitudes.

Best,

Warren

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Sent: Thursday, June 1, 2023 8:58:55 AM
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Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>
Subject: RE: Many Thanks!

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It was interesting to watch, and I look forward to the report.

The real thanks is to you and Warren as your participation continues.

Mike

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Toner, Karlin (FAA) <Karlin.Toner@faa.gov>
Sent: Thursday, June 1, 2023 8:03 AM
To: Freie, Michael (FAA) <michael.freie@faa.gov>

Cc: Randolph, Warren (FAA) <warren.randolph@faa.gov>

Subject: Many Thanks!

Hi Mike,

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Best,

Karlin

From: [Freie, Michael \(FAA\)](#)
To: [Peyton, James C \(FAA\)](#)
Subject: RE: I spy Mike Freie
Date: Tuesday, June 6, 2023 9:12:00 AM
Attachments: [image001.png](#)

Funny. Infamous maybe.

I had not seen that articular clip (not that I am looking). I read a couple of articles right after the event.

Thanks for sharing. Live long and prosper.

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Peyton, James C (FAA) <james.c.peyton@faa.gov>
Sent: Tuesday, June 6, 2023 7:49 AM
To: Freie, Michael (FAA) <michael.freie@faa.gov>
Subject: I spy Mike Freie

<https://www.cnn.com/videos/us/2023/06/05/ufo-uap-nasa-corbell-contd-gr-orig.cnn>

Hi Mike,

Hope you are well. I'm guessing that you have already seen this. You are towards the end of the video. You're famous!

Conway Peyton, PMP®

SBS COR

Service Performance and Sustainment Team, AJM-422

Surveillance and Broadcast Services Group, AJM-42

Program Management Organization/Federal Aviation Administration

Office: 202-267-8586

— ADS-B —
THE FUTURE IS NOW



Federal Aviation
Administration

FAA Surveillance Services

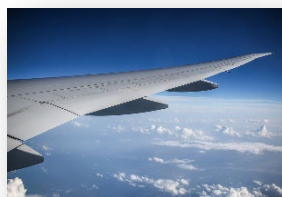
Surveillance 101

An Overview to Aviation Surveillance





United States National Airspace System (NAS) Operations



- **5,300,000 square miles of U.S. domestic airspace**
- **24,100,000 square miles of oceanic airspace**

- **14,000 (plus) Air Traffic Controllers**
 - **520 Air Traffic Control Towers**
 - **147 Terminal Approach Control Facilities**
 - **21 Air Route Traffic Control Centers**

- **19,633 airports**

United States NAS Operations (continued)

Air Traffic Services are provided by Controllers who rely on various systems to safely and efficiently **guide aircraft from gate to gate**, and in doing so, transitioning from different **airspace domains** (Surface, Terminal and En-Route).

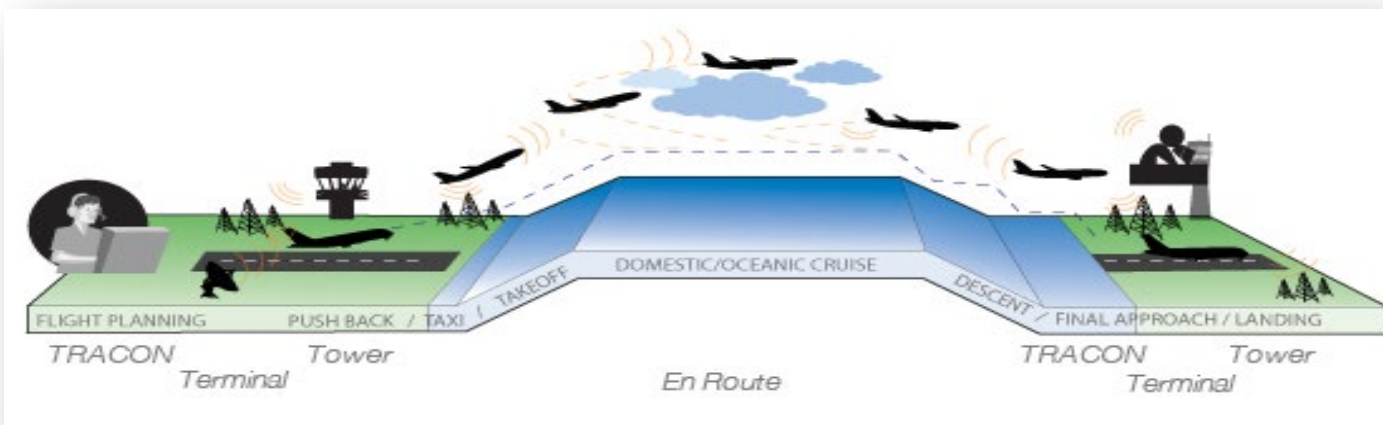


Image of an Aircraft Transitioning from Different Airspace Domains (e.g., Terminal, En-Route)

FAA by the Numbers

- 16,405,000 flights handled by the FAA yearly
- 45,000 average daily flights handled by the FAA
 - 5,400 aircraft in the sky at peak time
- 25,506,000 General Aviation flight Hours per year
- Aviation contributed 5.2% of the U.S. gross domestic product (GDP)
 - \$488 Billion annual earnings from aviation

https://www.faa.gov/air_traffic/by_the_numbers/

General Surveillance Components

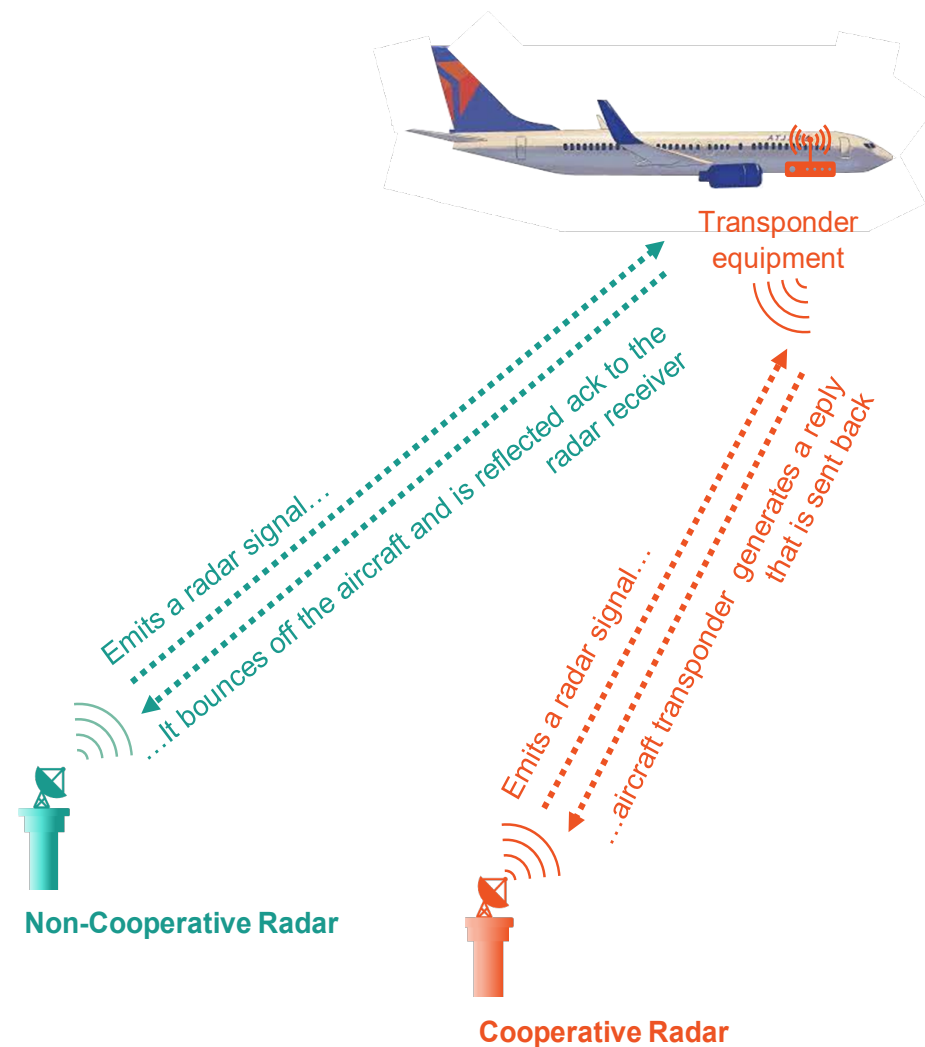
Categories of of Surveillance Services

Cooperative Surveillance - Requires avionics on board the aircraft that work in coordination with ground-based systems to determine the aircraft position, altitude, and identity.

- A second radar beacon antenna attached to the top of non-cooperative radar antenna transmits and receives aircraft data for barometric altitude, identification code, and emergency condition.

Non-Cooperative Surveillance – Determines an aircraft’s position independently, without the use of on-board avionics.

- Track aircraft not equipped with avionics or with failed avionics
- Provide air traffic control weather information



General Surveillance Components

Types of Surveillance Systems

Short-Range Radar – Non-cooperative and Cooperative sensors

- Coverage: 40 to 60 nautical mile (NM) ranges from the radar sensor
- Use:
 - Control aircraft in Terminal airspace around airports
 - Gap filler coverage of En-Route airspace where long-range radars not available

Long-Range Radar – Non-cooperative and Cooperative sensors

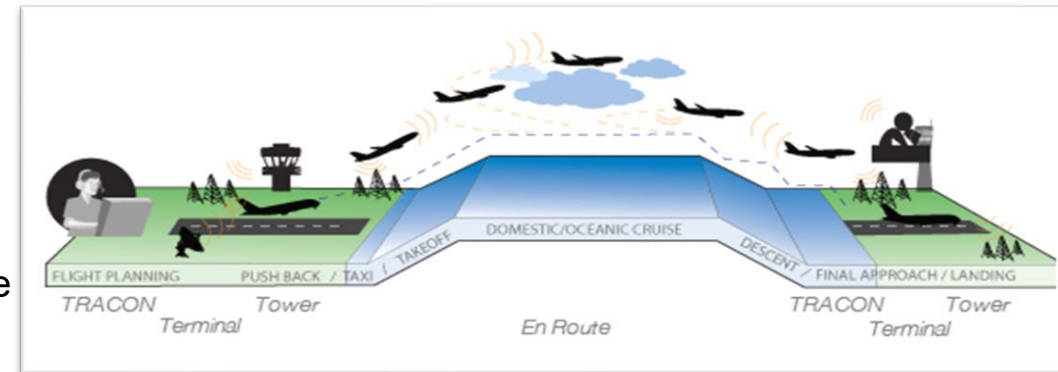
- Coverage: 200 to 250 NM nautical miles (NM) from the radar sensor
- Use:
 - Control aircraft in En-Route airspace to flying between 18,000 and 60,000 feet above sea level (Class A airspace)
 - Some coverage of Terminal airspaces where short-range radars not available

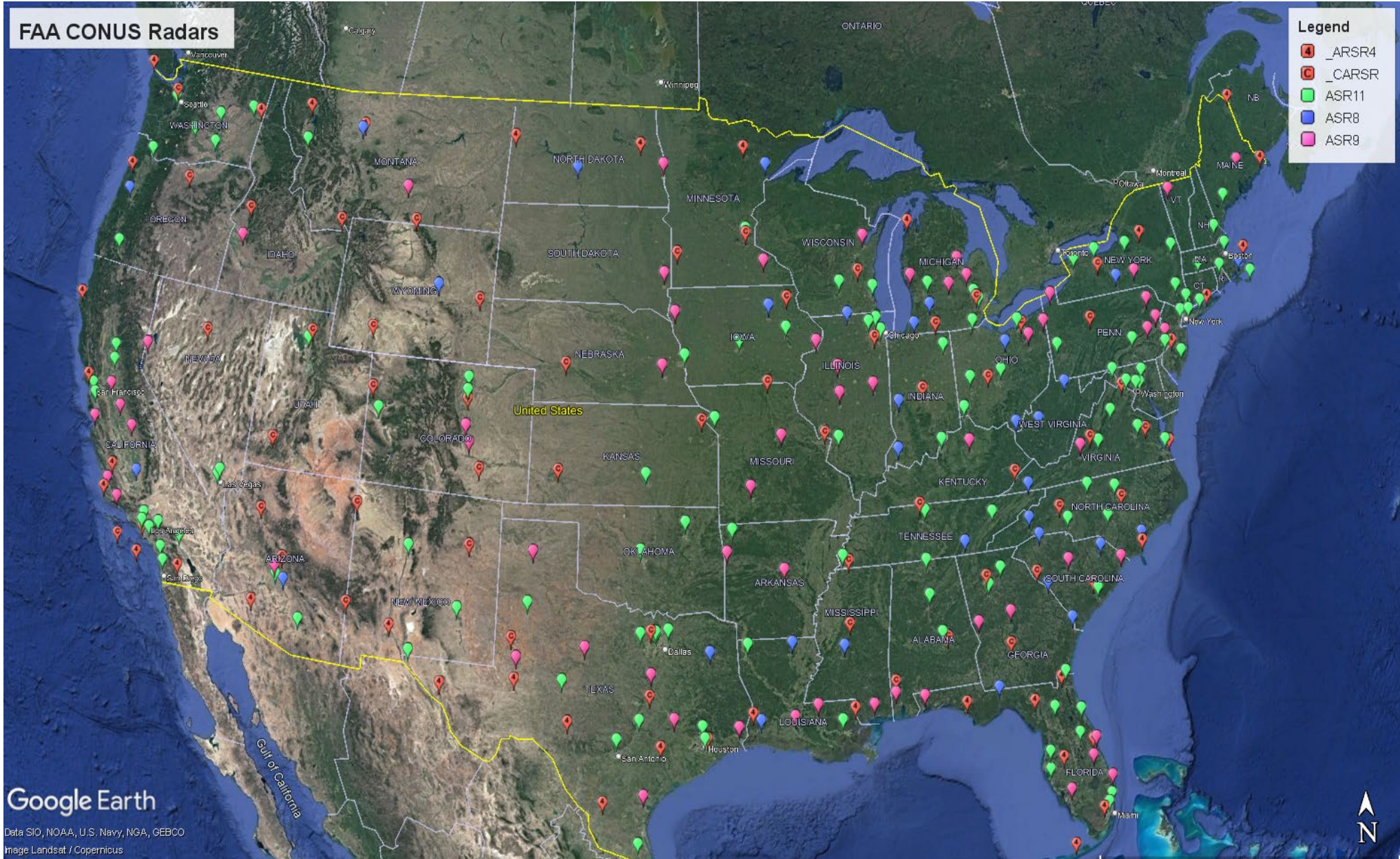
Automatic Dependent Surveillance-Broadcast (ADS-B) – Cooperative (ADS-B equipped aircraft position via Satellite GPS)

- Coverage: Over 600 ground stations across the US - No range limitations within ground station coverage
- Use:
 - Control aircraft in Surface, Terminal and En-Route airspace
 - Aircraft position data very accurate and high update rate

Surface Surveillance – Non-cooperative and Cooperative

- Coverage: Airports surface and on approach and departure paths
- Use:
 - Provides situational awareness on the airport movement areas and 1-2 miles into approach corridors







Radar LOS Coverage

1000 ft AGL



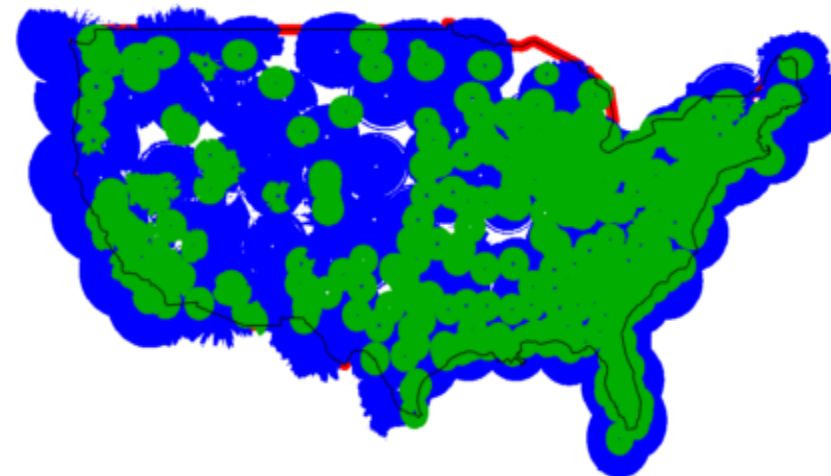
2000 ft AGL



5000 ft AGL



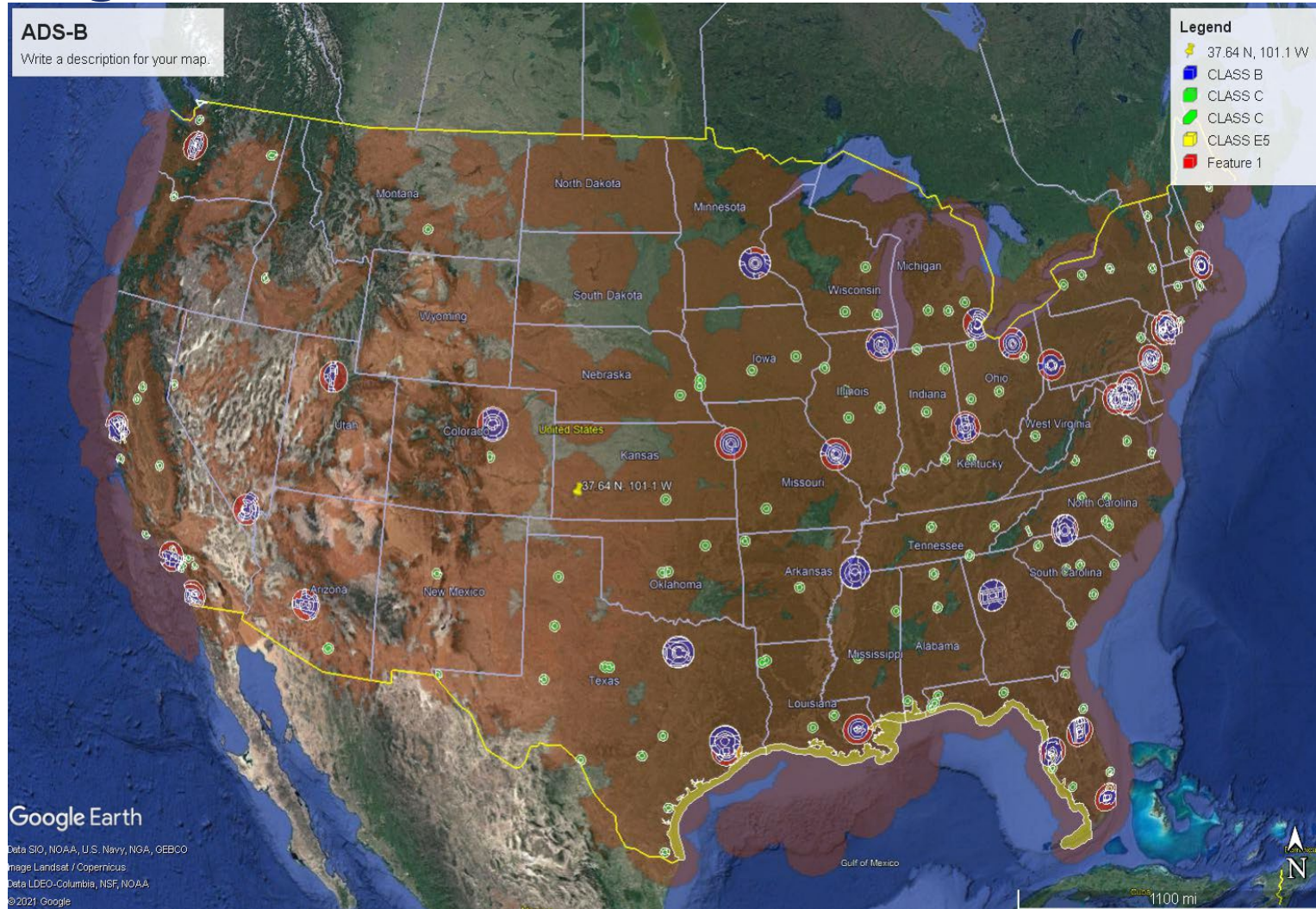
10000 ft AGL



LRR: CARSR + ARSR-4
SRR: ASR + GPN



ADS-B Coverage at 1,500 ft AGL



Significant ADS-B coverage exists across CONUS at 1,500 ft AGL



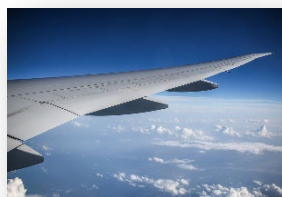
**Federal Aviation
Administration**

National Airspace System Surveillance





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United States NAS Operations (continued)

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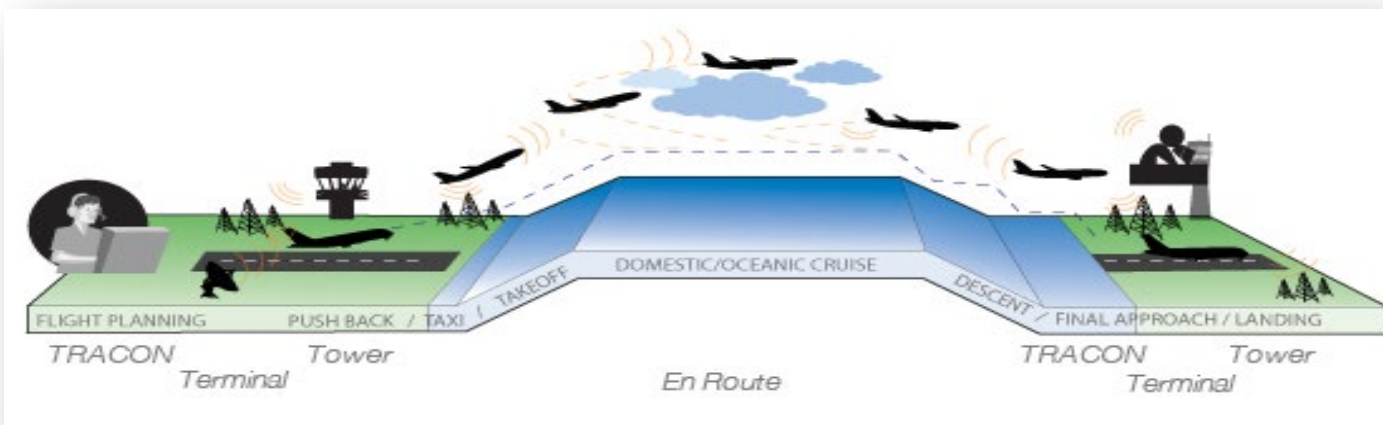


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 - \$488 Billion annual earnings from aviation

https://www.faa.gov/air_traffic/by_the_numbers/

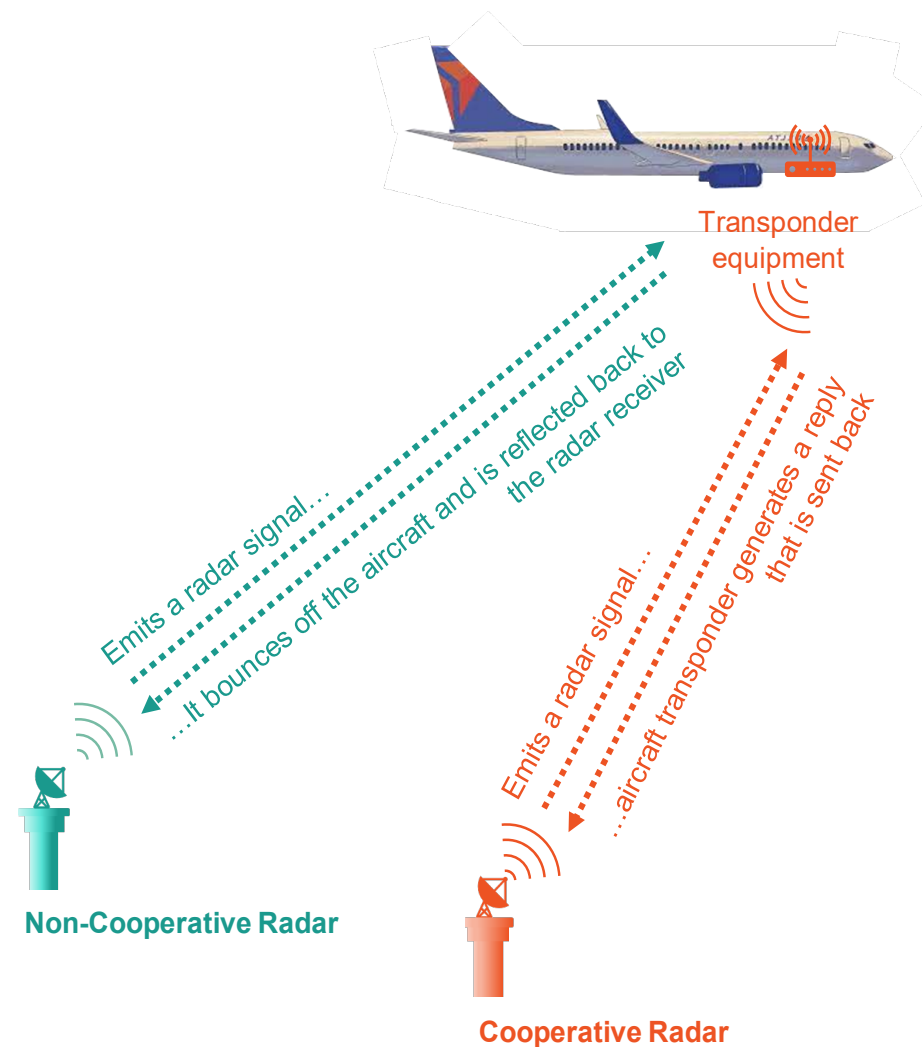
Surveillance Services Categories

Cooperative Surveillance - Requires avionics on board the aircraft that work in coordination with ground-based systems to determine the aircraft position, altitude, and identity.

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 - Control aircraft in Terminal airspace around airports
 - Gap filler coverage of En-Route airspace where long-range radars not available

Long-Range Radar – Non-cooperative and Cooperative sensors

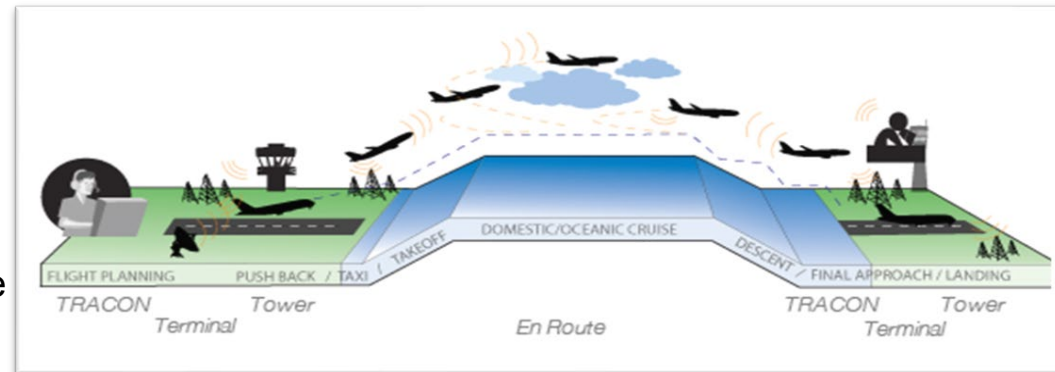
- Coverage: 200 to 250 NM nautical miles (NM) from the radar sensor
- Use:
 - Control aircraft in En-Route airspace to flying between 18,000 and 60,000 feet above sea level (Class A airspace)
 - Some coverage of Terminal airspaces where short-range radars not available

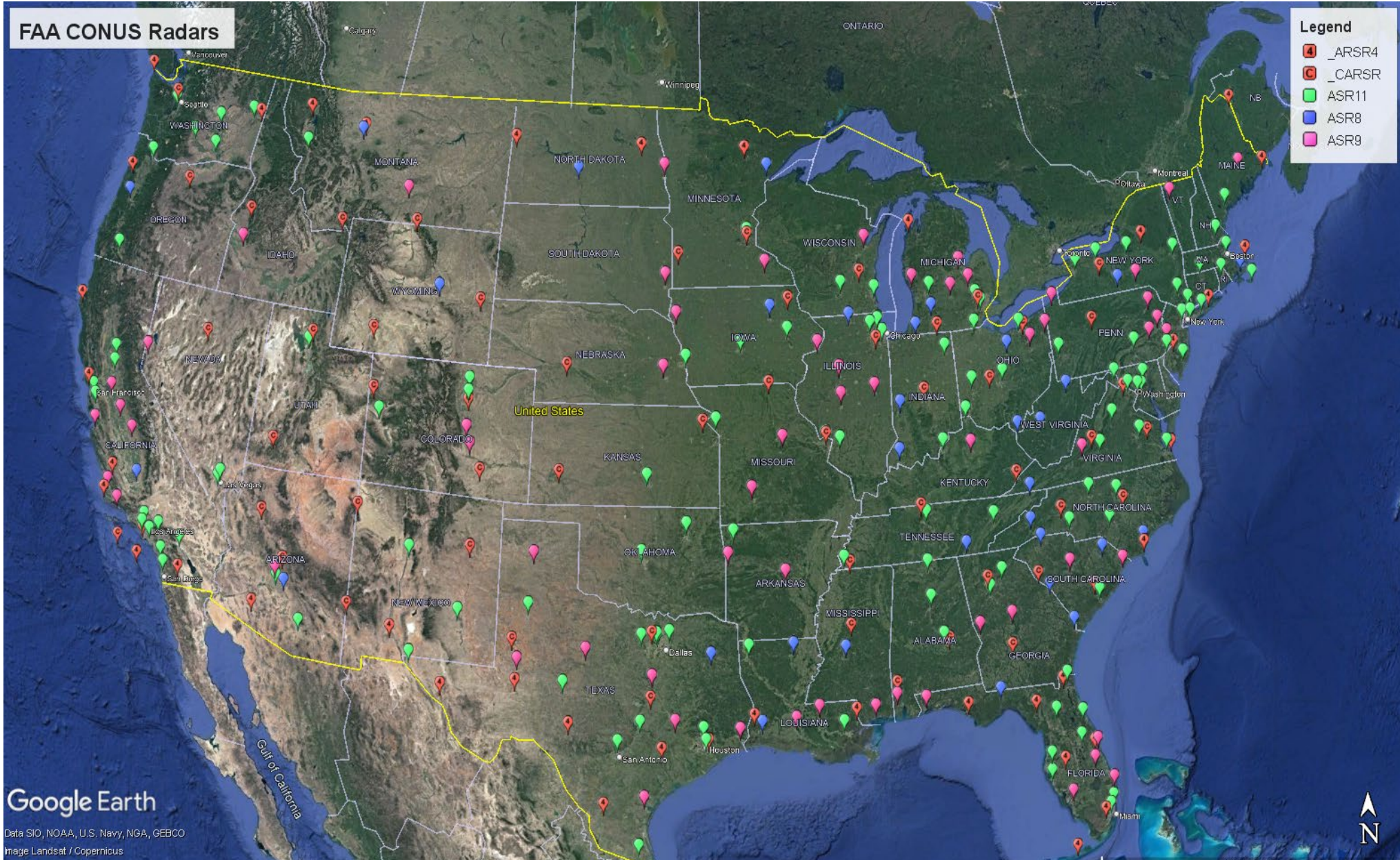
Automatic Dependent Surveillance-Broadcast (ADS-B) – Cooperative (ADS-B equipped aircraft position via Satellite GPS)

- Coverage: Over 600 ground stations across the US - No range limitations within ground station coverage
- Use:
 - Control aircraft in Surface, Terminal and En-Route airspace
 - Aircraft position data very accurate and high update rate

Surface Surveillance – Non-cooperative and Cooperative

- Coverage: Airports surface and on approach and departure paths
- Use:
 - Provides situational awareness on the airport movement areas and 1-2 miles into approach corridors





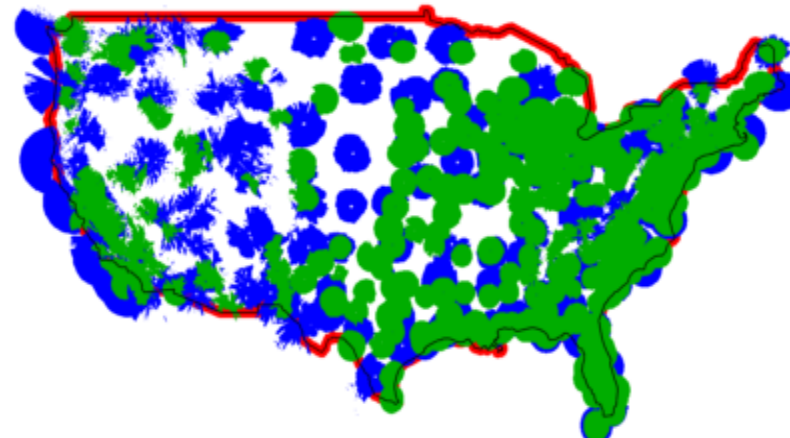


Radar Line of Sight Coverage Above Ground Level (AGL)

1000 ft AGL



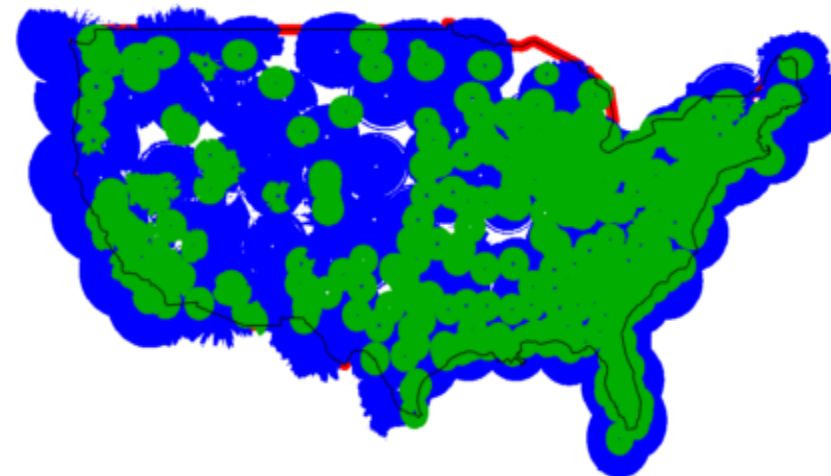
2000 ft AGL



5000 ft AGL



10000 ft AGL

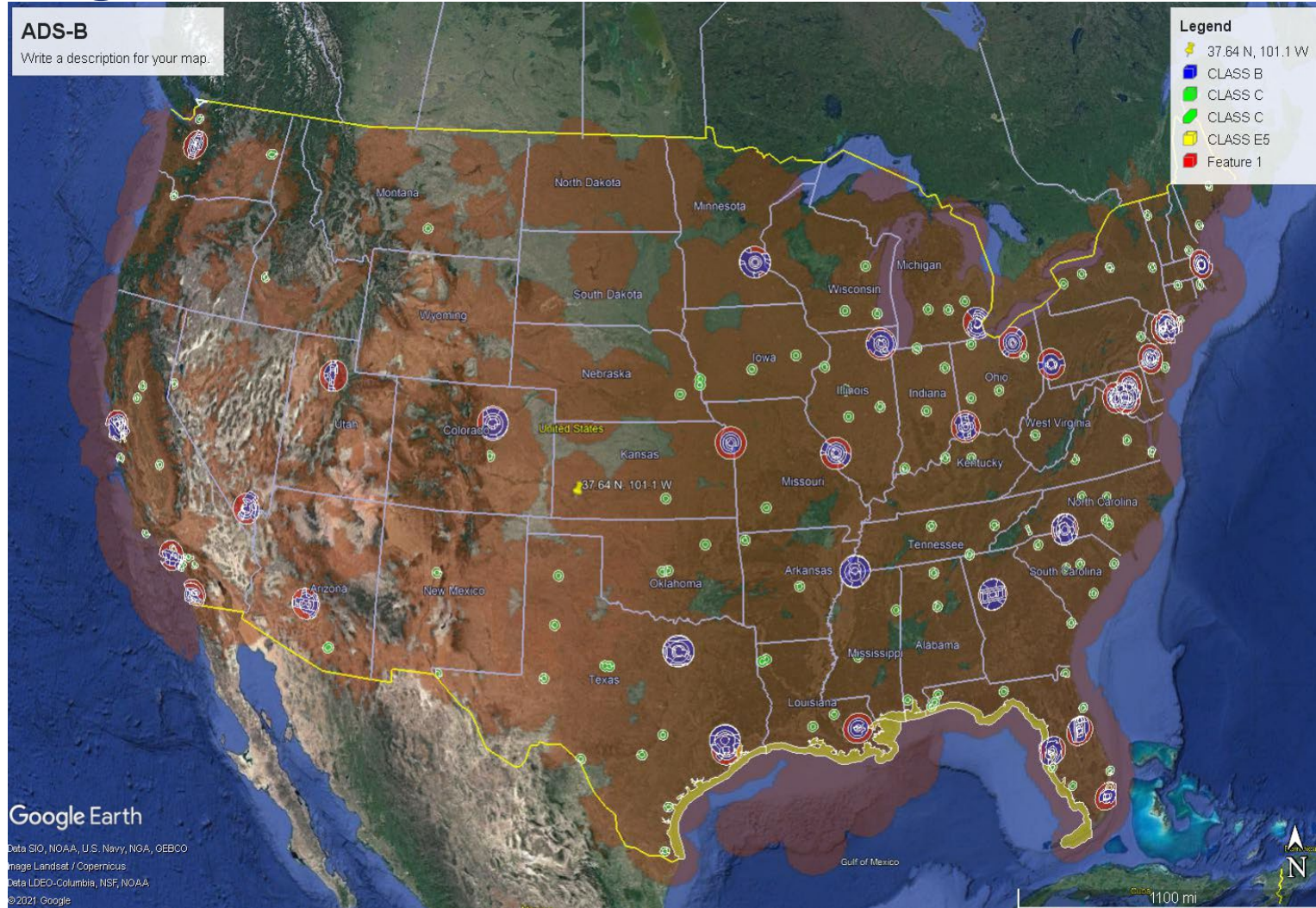


Non-Cooperative Long Range
Radar Systems

Non-Cooperative Short Range
Radar systems



ADS-B Coverage at 1,500 ft AGL



Significant ADS-B coverage exists across CONUS at 1,500 ft AGL

From: [Setzer, Evan \(FAA\)](#)
To: [Peters, Brian \(FAA\)](#); [Kenemuth, Brad \(FAA\)](#)
Cc: [Freie, Michael \(FAA\)](#)
Subject: Re: Surveillance SMEs
Date: Monday, November 20, 2023 8:33:50 AM
Attachments: [image002.gif](#)

Good morning,

Rob Sweet gave me a “heads-up” that this may have been coming.

The universe of cleared folks in our directorate is targeted and small. To my knowledge, those currently cleared at the TS level include me, Mike E, Mike F, Doug, and Alex. Matt McCann and Eltzafan Mark may also be cleared at the Secret level, if I recall correctly (I can double-check if needed). Brad’s shop has a couple folks too, I believe. George?

I would be happy to support, though I’m uncertain what the LOE/schedule demands are and whether I can support. I think Mike F and Alex would be very reasonable names to offer. If the timeline is short, perhaps Doug could support as one of his final tasks?

V/R,

Evan Setzer

Group Manager, Surveillance & Broadcast Services (AJM-42)
Surveillance Services | Program Management Organization | Federal Aviation Administration
Call/Text: (b)(6)

From: Peters, Brian (FAA) <brian.peters@faa.gov>
Sent: Friday, November 17, 2023 9:00 AM
To: Setzer, Evan (FAA) <evan.setzer@faa.gov>; Kenemuth, Brad (FAA) <Brad.Kenemuth@faa.gov>
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Subject: FW: Surveillance SMEs



Evan\Brad,

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Thanks, have a good weekend.

Brian P. Peters
Director (A), Surveillance Service, AJM-4
(b)(6) (C)

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Sent: Friday, November 17, 2023 8:58 AM
To: Hicok, Dan (FAA) <dan.hicok@faa.gov>; Freie, Michael (FAA) <michael.freie@faa.gov>
Cc: Guy, Rebecca (FAA) <Rebecca.Guy@faa.gov>
Subject: RE: Surveillance SMEs

Dan,

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Evan is also out today, but I will follow up with him on Monday regarding Allan or another name.

Also, Joe Pagano is in ANG, he used to be in AJW but he is no longer in the ATO.

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Subject: FW: Surveillance SMEs

Brian and Mike,

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Thanks,

Dan

Dan Hicok
Deputy Vice President
Program Management Organization | Air Traffic Organization (ATO)
Federal Aviation Administration

Mobile: (b)(6)
Email: dan.hicok@faa.gov

From: Miller, Gary W (FAA) <Gary.W.Miller@faa.gov>

Sent: Friday, November 17, 2023 8:27 AM

To: Hicok, Dan (FAA) <dan.hicok@faa.gov>; Linney, James D (FAA) <James.D.Linney@faa.gov>

Cc: Murphy, Dan (FAA) <dan.murphy@faa.gov>

Subject: Surveillance SMEs

Morning Dan

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From: [Freie, Michael \(FAA\)](#)
To: [Peters, Brian \(FAA\)](#); [Kenemuth, Brad \(FAA\)](#); [Setzer, Evan \(FAA\)](#)
Cc: [Pagano, Joe \(FAA\)](#)
Subject: RE: Surveillance SMEs
Date: Monday, November 20, 2023 2:03:00 PM

Brian,

Suggest starting with Alex or myself to participate initially to better understand what the request really is. The request and specifically the AARO seems to tie this to the NASA UAP efforts from this past summer which I participated in.

Mike

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell - (b)(6)

From: Peters, Brian (FAA) <brian.peters@faa.gov>
Sent: Friday, November 17, 2023 10:34 AM
To: Kenemuth, Brad (FAA) <Brad.Kenemuth@faa.gov>; Setzer, Evan (FAA) <evan.setzer@faa.gov>
Cc: Freie, Michael (FAA) <michael.freie@faa.gov>; Pagano, Joe (FAA) <Joe.Pagano@faa.gov>
Subject: RE: Surveillance SMEs

Thanks Brad

Brian P. Peters
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Cc: Freie, Michael (FAA) <michael.freie@faa.gov>; Pagano, Joe (FAA) <Joe.Pagano@faa.gov>
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Brian,

We have very few folks with security clearances. (b)(6) Below are some additional names for consideration.

(b)(6)

(b)(6)

(b) (6)

Brad Kenemuth

Office: 202.267.0199

Cell: (b)(6)

Email: Brad.Kenemuth@faa.gov

Location: FAA HQ 10B 4th Floor 4E22RS

From: Peters, Brian (FAA) <brian.peters@faa.gov>

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Cc: [Pagano, Joe \(FAA\)](#)
Subject: RE: Surveillance SMEs
Date: Monday, November 20, 2023 2:18:36 PM

Thanks Mike, I will respond to Dan.

Brian P. Peters
Director (A), Surveillance Service, AJM-4
(b)(6) (C)

From: Freie, Michael (FAA) <michael.freie@faa.gov>
Sent: Monday, November 20, 2023 2:04 PM
To: Peters, Brian (FAA) <brian.peters@faa.gov>; Kenemuth, Brad (FAA) <Brad.Kenemuth@faa.gov>; Setzer, Evan (FAA) <evan.setzer@faa.gov>
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Program Management Organization | Air Traffic Organization (ATO)
Federal Aviation Administration

Mobile: (b)(6)
Email: dan.hicok@faa.gov

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Sent: Friday, November 17, 2023 8:27 AM

To: Hicok, Dan (FAA) <dan.hicok@faa.gov>; Linney, James D (FAA) <James.D.Linney@faa.gov>

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From: [Freie, Michael \(FAA\)](#)
To: [Rodriguez, Alejandro \(FAA\)](#)
Subject: FW: Surveillance SMEs
Date: Thursday, November 30, 2023 10:08:00 AM

FYSA

Mike Freie
Technical Advisor, Surveillance Services, AJM-4
Federal Aviation Administration
Cell – (b)(6)

From: Hicok, Dan (FAA) <dan.hicok@faa.gov>
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Subject: RE: Surveillance SMEs

Thanks Brian!

Dan Hicok

Deputy Vice President
Program Management Organization | Air Traffic Organization (ATO)
Federal Aviation Administration

Mobile: (b)(6)
Email: dan.hicok@faa.gov

From: Peters, Brian (FAA) <brian.peters@faa.gov>
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Dan,

From AJM-4 we would offer Mike Freie and Alex Rodriguez to participate.

Thanks
Brian P. Peters
Director (A), Surveillance Service, AJM-4
(b)(6) (C)

From: Hicok, Dan (FAA) <dan.hicok@faa.gov>
Sent: Friday, November 17, 2023 9:06 AM
To: Peters, Brian (FAA) <brian.peters@faa.gov>; Freie, Michael (FAA) <michael.freie@faa.gov>
Cc: Guy, Rebecca (FAA) <Rebecca.Guy@faa.gov>
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Thanks Brian. End of next week please.

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